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ABSTRACT

This anthology deals with the subject of community college curricula, suggesting what is and should be the direction of the community college curricula for the 1990's. Part 1 cites sources which attempt to provide a definition of the community college curriculum; looks at the functions, goals and missions of the community college, and the standards, degrees, and certificates in which these functions and goals are manifested; considers the current and future state of the curriculum in a social context; and describes a basic model of the procedural process for curriculum development in the two-year college. Part 2 focuses on the changing nature of the community college in relation to lifelong learning, the adult learner, community services and continuing education, and the small/rural community college. Finally, part 3 explores future directions for the curriculum, looking at the use of educational technologies in the development of comprehensive learning assistance centers; the involvement of community colleges in high technology training; the continuing value of individualized, self-paced instruction; and the effects of students and faculty on the curriculum. (EJV)

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COMMUNITY COLLEGE CURRICULA: CIRCA 1990

An Anthology

JC 860 476

Jack Fuller

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Community College Curricula: Circa 1990
An Anthology

Jack W. Fuller

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PART ONE

STATE OF THE ART

1

Breadth and Scope

This book is an anthology that deals with the subject of community college curricula. Drawing from the published thoughts and experiences of this author, it is a collection of suggestions for what is and should be the direction of community college curricula for the 1990s. The intent is to portray curriculum as a perpetual process that is in the throes of another major change in its evolution. More than a decade ago, Ray Schultz (1974) suggested that change may be characteristic of the species. Schultz observed that:

> ...curriculum trends and developments in the American junior college have paralleled closely the dramatic growth and development of this type of institution. It is no exaggeration to state that no other educational institution in the United States has experienced as much curriculum change during the past fifteen years as has the junior college. (p. 262)

Art Cohen (1975) acknowledged this dynamicism and suggested that a pause for re-evaluation and maturation may be in order. In so doing, he posed such questions as:

> Does it [curriculum] stress the interests of the individual or the needs of society? Does it confront contemporary problems in the abstract or directly? Is instruction centered around organized disciplines of knowledge? Is it structured on unified learning theory? Community college educators have promised to meet all community educational needs. But how are these needs to be met? What are the choices confronting the decision makers? (pp. 154-164)

Cohen concluded his queries about the community college curriculuIm with "How much is enough?" and suggested that community colleges might be better off if they would more vigorously address the matter of "quality rather than quantity."

Alvin Toffler (1974), on a broader scale, recognized the immensity of the issue when he noted that "there is so much that could be taught that it is almost impossible to decide what should be taught." (p. 105) Although not writing specifically about the community college, several other curriculum theorists perceived problems of similar magnitude. Some are mentioned by David E. Barbie, including Hilda Taba, who maintained that:

> When some subjects are selected or retained because they are regarded as a good discipline of the mind [e.g., general education requirements], and others because of their utility [e.g., vocational preparation programs], and still others because they meet the psychological needs of students [e.g., community service offerings], the curriculum becomes a hodge-podge. (p. 29)

For those who would take issue with Taba's statement and this author's annotations, solace might be found in Barbie's analysis of several noted curriculm theorists. As Barbie touches upon the ideas of such noted authorities as Bobbitt, Bode, Snedden, Dewey, Goodlad, Schultz, Bruner, and a host of lesser knowns, the reader never really senses that these people were gathering their postulates and formulating their hypotheses with the community college in mind. And, perhaps here is the crux of the problem.

The community college curriculum as a distinct entity requires further thought and review. When one reads Lewis B. Mayhew (1971), one knows that he or she is reading of higher education curriculum. When one reads Taba, Bobbitt, Dewey, Goodlad, and Bruner, one knows that he or she is reading of curriculum, in general. When one reads Cohen, Rouche, Schultz, Hammons, Richardson and the like, one knows that he or she is reading of community college curriculum. If it is to be properly understood and effectively deployed, the substance of community college curriculum must receive more regular examination, with greater dissemination of the results, by students of its content and portent. It is hoped that this account will be one step in the right direction.

TOWARDS A DEFINITION

Definitions of community college curriculum are multiplying. Art Cohen (1969) offers a comprehensive description:

> Curriculum can be defined as a total set of experiences designed for students — experiences which are supposed to take their minds from

> one place to another. The word 'curriculum' comes from the Latin word 'currere' that means 'to run.' Its closest associated words are 'course' and 'courier.' However, 'curriculum' is most often used to mean the whole body of courses offered in an educational institution or by a department thereof. The experiences planned for students outside the course framework are 'extra-' or 'co-curricular.' (p. 76)

Blocker, Plummer, and Richardson (1965) help to clarify some of Cohen's generalizations when they point out that:

> ...there can be no clear-cut distinction between curriculum — a group of courses and planned experiences which a student has under the guidance of the school or college — and instruction, which is defined by the interaction between the student and teacher, in which teaching and learning occur simultaneously. (p. 202)

Blocker, et.al., go on to observe that the process is of the affective as well as the cognitive domain, inasmuch as:

> ...all of an individual's knowledge is part of his personality, and that all curricula either favor or hamper personality development, regardless of whether they were designed with such development in mind. (p. 202)

Therefore, learning and curriculum in college bring about a developmental change in the personality structure, and any concept of curriculum devoid of this concept is incomplete.

Ray Schultz appears to support the importance of extra or informal curriculum and its affective role in curricular thrust:

> The informal curriculum has more impact on students than many curriculum planners realize or are willing to acknowledge. Consequently, it has been sold short at all levels of education. There are, however, notable exceptions to this general condition among junior colleges, and indications that the blackout is being lifted. (p. 269)

Schultz goes on to argue that among the activities that constitute the informal junior college curriculum are student government, publications, special interest and social organizations, cultural programs, intramural and intercollegiate sports, recreational programs, and numerous informal endeavors. The fact that many public junior colleges have no residence facilities has had a bearing on the development of their informal curricula. Junior colleges are adapting to this situation in a number of ways. One of these is in facilities planning. Places are being provided where students can meet informally and where they can engage in recreational activities. Another approach being increasingly employed is the involvement of students in the planning of such activities.

As public junior colleges address themselves to their role as community oriented institutions, the informal curriculum is reaching far beyond the regular student body. Adults of the community from all walks of life increasingly participate in the social, cultural, recreational, and public service activities on junior college campuses. With the current emphasis on informal education, exciting developments exist for community oriented junior colleges. No other type of educational institution is as well suited to serving all people in all ways. (Schultz)

Coupled with current philosophy and theory, these and other curricular definitions form the basis of our understanding of community college curriculum. They are the underlying constants which inspire the substance — the experiences, courses, programs, certificates and degrees pursued by community college students.

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2

Curricular Foundations

THE DESIGN

While definitions of community college curriculum may vary somewhat, there is much more unanimity on the functions, goals and missions of the community college, and the curricular standards, degrees, and certificates that they are made manifest in. Recognized texts and hundreds of community college catalogs, for example, concur with the following description of the functions of the community college.

FUNCTIONS OF A COMMUNITY COLLEGE

A typical state law defines a community college as an "educational institution which provides a program not exceeding two years training in the arts, sciences and humanities beyond the twelfth grade of the public or private high school curriculum or vocational education, including terminal courses of a technical or vocational nature and courses beyond the basic education courses for adults."

Bringing its philosophical approach to bear on the state's definition of its mission, a typical college declares its functions to include provision of the following:

- General education designed to increase the individual's awareness of man's knowledge and to increase his or her capacity for intelligent and responsible participation in society;
- Educational programs of varying lengths to prepare students for useful and satisfying vocations, with an emphasis on community needs;

- Two years of lower division collegiate work to enable students to progress smoothly into upper division work at universities;
- Continuing education courses to satisfy the vocational and avocational aspirations of young people and adults interested in attending evening classes;
- A professional staff responsive to the needs of individuals for assistance in career guidance, academic work, and personal counseling;
- Community services related to specific needs, including cultural, recreational, and general interest programs.

Similarly, there is a great deal of uniformity in the goals of community colleges across the United States:

COMMUNITY COLLEGE INSTITUTIONAL GOALS

- Provide educational opportunities that facilitate human development;
- Provide an environment that promotes independent thinking and effective communication;
- Prepare students for entry into and appreciation of actual careers;
- Develop an instructional program that accommodates individual differences in learning rates, aptitudes, prior knowledge, etc.;
- Engender in each student a concern for excellence and a desire for continuous learning;
- Develop an institution whose total environment is dedicated to learning and open to those who desire to learn;
- Utilize the total community as a laboratory for learning;
- Contribute to the educational, social and cultural development of the county;
- Institute an organizational concept of defining outcomes, differentiating processes, and evaluating results for all undertakings;
- And provide for continuous college evaluation.

As the goals are interpreted and applied throughout the organizational process, they take the form of experiences, courses, programs, certificates, and degrees. Curriculum requirements vary from program to program, college to college, and state to state. Within

ranges, however, the following distribution is representative of most community colleges:

ASSOCIATE OF ARTS DEGREE (College Transfer)

A. 30-40 units required general education
B. 30 units of subject major or related electives

ASSOCIATE OF APPLIED SCIENCE (Occupational)

A. 15-20 units required general education
B. 40-45 units of subject major or related electives

ASSOCIATE OF LIBERAL ARTS

A. 60 units of electives

CERTIFICATE

A. 5-10 units of required general education
B. 25-35 units of subject major or related electives

The origin of the Associate of Arts/Science degree can be traced to the inception of the two-year college. The primary function of the two-year movement throughout the early 1900s was to prepare students for transfer to a baccalaureate program in a college or university. In order to effect as smooth a transfer as possible, the associate degree curriculum was designed to closely parallel the university requirements for the baccalaureate. This remains a primary concern of community colleges today.

Community colleges are ever sensitive to the content of their Associate of Arts degree. They constantly monitor courses to assure that they are transferable, especially to universities that tend to receive a lot of their students. Many colleges and states have compacts or agreements that guarantee the acceptance of the mutally agreed upon associate degree program at the participating universities. The credibility of these articulation efforts (and enrollment patterns) has been a partial impetus for the transferability of as many as 72 units of community college credit (10-12 more than needed for graduation in most degree programs) to receiving colleges and universities.

A companion of the Associate of Arts degree is the Associate of Science degree. Intended for transfer to a baccalaureate of science

degree, it demands more math and science and perhaps less humanities and social studies in its general education requirements. Many community colleges do not distinguish between the two pre-baccalaureate degrees. Content with awarding one associate degree, they advise and counsel their students into courses that satisfy the degree requirements of the university of their choice.

The Associate of Applied Science degree is peculiar to the community college. Proprietary schools and select universities have had similar degrees for years, but the growing emphasis on vocational education in the community colleges over the past few decades has placed the community colleges in the forefront of this curricular program. The Associate of Applied Science degree is intended to equip students with a marketable skill upon completion of any program. Although the degree is not intended for college transfer, many students are inclined to continue on for a baccalaureate degree. At first, the universities balked at this clientele, but as enrollments became more scarce and the labor market demanded more sophisticated technicians, baccalaureate degrees in vocational subjects proliferated, and the Associate in Applied Science has become increasingly, although selectively, transferable.

The community college certificate is similar in purpose to the Applied Science degree. The certificate is intended to provide students with a marketable skill after a brief (approximately one year) but concentrated (e.g., 20-25 units out of a possible 30 in the subject area) course of study. While little of this program will transfer to a baccalaureate degree, it often serves as the steppingstone into an associate degree. In fact, some sequences are arranged in a "ladder" concept so that the successful completion of each semester is a certificate in itself, and/or one more step toward the fulfillment of the requirements of an associate degree. This variation on the "open entry, open exit" theme is particularly attractive to the increasing number of adult students who attend community colleges part-time while they fulfill other responsibilities. The General Studies degree has a similar attraction.

OFFICE ADMINISTRATION LADDER

Career Education Certificates

To emphasize career education, the "Career Ladder" approach was developed to provide courses and training actually needed for each job in the ladder concept. This enables students to continually upgrade themselves. In order to receive a certificate, a student must demonstrate at least an overall grade point average of 2.0 for each certificate program.

Step 1 — General Office Clerk

Fund of Oral Communication	3
Elem Typewriting	3
Mathematics	4
Business Machines	3
Records Management	3
	16

Step 2 — Clerk Typist

English	3
Inter Typewriting	3
Office Mach Transcription	2
Intro to Data Process	3
Human Relations	
OR	
Intro to Psychology	3
Intro to Business	3
	17

Step 3 — Stenographer

English	3
Adv Typewriting	3
Office Accounting	
OR	
Accounting 1	3
Elem Shorthand	
OR	
Inter Shorthand	3
Office Org & Mgt	3
	15

Known by many other names, e.g. Liberal Studies, the General Studies degree is an attempt to finally recognize the academic participation of persons who have continued their education as a matter of enlightenment, with no other specific goal in mind. Coupled with the development of credit-for-life experience, credit by examination, and colleges without walls, the credibility of the General Studies degree has been enhanced. At the present time, however, its transferability is at best selective.

ASSOCIATE IN GENERAL STUDIES

> The Associate in General Studies degree shall be conferred on those students who successfully complete 62 credits of a planned program with a cumulative grade point average of 2.0 or higher. This program is designed for individuals who wish to continue their education, but are not necessarily planning to transfer to a four-year college or university or prepare for any given vocational career.
>
> No major or minor must be declared, nor must any certain general education requirements be fulfilled. In order for the degree to be conferred by a college district, at least 20 hours of credit must be earned at district institutions. The objectives of the General Studies degree are to (1) offer a distinct and innovative degree alternative and (2) provide tangible recognition to the concept which is inherent in the mission of the community college.

PHILOSOPHY

Mission, goals, objectives, degrees, certificate programs, courses, and experiences outline the design of the community college curriculum. The curriculum is given still further direction by the underlying philosophy of the community college.

The community college philosophy is usually predominantly displayed in the college catalog and might read as follows:

COMMUNITY COLLEGE PHILOSOPHY

> The proper functioning of a democratic society and the well-being of individuals depend on the opportunity for

people to develop their abilities in accordance with their own chosen goals. To achieve this end, the community college education should be designed as a continuous process, developing an awareness in individuals, both of themselves and their environment, and thus, preparing them to function more effectively in a highly complex society.

All individuals in the college community are encouraged to take pride in their own heritage and, at the same time, to develop an awareness and appreciation of differences which stem from differing backgrounds.

An institution committed to these ends attempts to create an atmosphere rich in diversity of subject matter, materials, and educational approaches. In accepting the principle of continuous and open evaluation of all activities, the college encourages all participants to make free, intelligent, and responsive choices from a wide range of alternatives.

In reference to higher education curriculum as a whole, Lewis Mayhew (1971) draws upon such philosophies and theorists as Whitehead, Tabo, Tyler, Hutchins, Dewey, Goodlad, Skinner and others in suggesting that certain core issues provide all curriculum:

1. Culture vs. Utility,
2. General vs. Specific,
3. Open, Closed, Specific, Prescribed,
4. Elitist or Popularist,
5. Student Centered or Subject Centered,
6. Discipline or Problem Centered,
7. Western or Non-Western,
8. Science vs. Humanities. (pp. 2-4)

A review of the typical community college curriculum reveals that Mayhew's summary of core curricular issues in higher education is applicable, for the most part, to the community college. The *Culture* versus *Utility* issue is not an "either or" question with the community college. Philosophically, the community college has accepted this dual responsibility as part of its comprehensive mission. In the community college curriculum, the preparation of students in the liberal arts for college transfer is just as important as equipping other students

with the mechanical skills to repair automobiles. Conversely, community college educators are forever attempting to eliminate the stigma traditionally attached to vocational education. Until recently, this seemed an eternal task. High technology careers and their extensive math/science/computer/electronic requirements have tended to blur many of the lines dividing the vocational and non-vocational student.

The broad selection of general education courses, e.g., history, political science, geography, anthropology, required of most degrees and certificates, vis a vis the *specific* course requirements, e.g., brakes, transmissions, fuel systems, of a vocational program, illustrates another of the issues that Mayhew perceives in the curriculum of post-secondary education. The community college has obviously decided to seek a healthy mix of *general* and *specific* studies rather than to take a decided position either way. To a large extent, this broad continuum of curricular choice is probably traceable to its populist orientation. The only entrance requirement of most community colleges is that the student be able to benefit from instruction. This can hardly be construed to be an elitist tack and certainly explains why typical community college students come from all ages and walks of life.

Because of its appeal to such a diverse student body, the community college touts a *student-centered approach*. It has to in order to respond to the many and diverse needs and characteristics of its clientele. In last analysis, however, it is safe to assume that this is more a philosophical than a practical bent. The actual determination whether the curriculum is *subject-* or *student-centered* probably occurs most frequently and directly between the faculty member and the student in the classroom. Success in either direction would be well received. In all likelihood, a share of each exists throughout.

Few community colleges, relatively speaking, have done very much with *problem-centered* curriculum design. There has been more rhetoric than reality in this regard, and the security of the traditional *discipline* centered approach has prevailed. It is safer and more convenient to build a program of study around familiar courses and fields of study than to embark anew. The irony of it all is that community colleges are relatively recent entrants on the educational scene and presumably are not shackled by the past. And in many ways this has been true. They have taken on all sorts of new curricula with nary a pause for concern. But while the end product may have been something new, the process remained pretty much the same.

Recent curricular emphasis on high technology and universal, high-speed communication and information systems may tend to blur this distinction in the years ahead. A common electronic tongue and curricula may evolve, but a single culture is unlikely. Hence, a need will always exist to learn and study other worlds.

The issue of whether community college curriculum should emphasize *Western* or *Non-Western* culture is a moot point. From the outset and to this very day, the Western way has been the dominant theme. The Western culture as well as the Western scheme of educational design has influenced almost every direction of the community college curriculum.

For similar reasons, the dilemma of emphasizing a *Scientific* or *Humanities* oriented curriculum has been influenced by recent computer/electronics developments. As might be expected, the trend is toward the former via more course requirements in math, science, and computers for all students. Meanwhile, humanists of all colors plead for prudence and preservation of their curricular content.

THE STUDENT

Of course, the product of this philosophy and process is the student. How he or she fares through and from it all is of primary concern. Part of this judgement rests with the expectations that are placed upon the products of this design. Mayhew summarized society's concept of a college graduate as a person who

1. Could read and write,
2. Knew how to solve problems,
3. Knew how to use the library,
4. Could cooperate with others,
5. Could complement knowledge and emotion,
6. Could communicate,
7. Liked himself,
8. Recognized his shortcomings,
9. Understood computers and quantification,
10. Could express self values. (pp. 163-164)

Mayhew's list is comprehensive but probably not all inclusive. It certainly implies that curriculum must go beyond subject content and impart values. This concern for the individual is reinforced by

Mayhew when he sets forth some basic postulates of curriculum theory. He suggests that:

1. Students need structure,
2. People want to learn,
3. Good education is good business and management,
4. A change agent must exist,
5. The purpose of curriculum is to change people positively,
6. Curriculum must be consistant with the institution,
7. Curriculum should be kept as simple, brief, and concise as possible,
8. Curriculum should acknowledge the needs of students,
9. Curricular agents should articulate with other levels of education. (pp. 166-169)

Some educators might argue that students do not need *structure*. In fact, they might go as far as to say that structure is the very thing that is wrong with education today....namely, that the curriculum is too rigid and does not permit the opportunity for individual growth and development. In one sense, the community college offers a compromise to this issue. While the associate degrees and certificates are pretty explicit about their content, the liberal studies degree, where available, offers an almost totally unstructured educational experience. More recent efforts at experiential learning, cooperative education, credit-for-life-experience, and contract learning present options that certainly make even the most structured program more accommodating and flexible.

Ideally, it is reassuring to revel in the thought that people want to learn. But ask any instructor about his classroom experiences along these lines, and he is apt to quickly retort the opposite. The idealism of this issue must be seasoned with realism and pragmatism. Students come to the learning environment with different motivations. Where there is no incentive, interest and learning will wane and physical if not mental absence may soon be forthcoming. If continued government, employer, or parental monetary support to the student is contingent upon grades — those symbols that learning has taken place — the student will want to learn. If service in the armed forces is imminent upon the receipt of failing grades, the student will want to learn. If disapproval is forthcoming from family and friends when academic success is not achieved, the student will want to learn.

As all educational institutions must, the community college must assume that all of its students want to learn, regardless of their motivations. For the curriculum to be implemented otherwise would be heresy.

Critics of education have long contrasted its inferior management practices to the more credible ones of its industrial counterparts. Their position is simple. If education would only adopt business-like techniques, it would not suffer from frequent managerial embarrassments. Some "educators" are quick to argue that business and education are two different entities with different goals and objectives and cannot be evaluated with like standards, expectations, and objectives. Business strives for profit while education quests for learning. In recent years, the business argument has carried some weight to the extent that a few managerial concepts have found their way into education: MBO (management by objectives), zero-based budgeting, delegation of authority, motivation, team management, etc. The business image of education has been bolstered with the advent and growth of unionism in education. This inherent division of labor and management has further heightened the significance of the labels assigned to these two groups. Humanists have been heard to contend that this only adds to the traditional faculty-administration riff and widens the communication gap even further. In response it is argued that adoption of more and better business practices in education would help to solve communication and other problems. But of course, if education takes on the business image and roles, the communication gap widens, and so on.

One of the most popularly prescribed means of avoiding curricular problems in community colleges is to provide for a change agent to effect or be the catalyst for curriculum development. For those who have had the experience, one of the most frustrating things in education can be the development, acceptance, and implementation of a curricular idea. The complexities of organizational dynamics and structure coupled with the awesome technicalities and expense of instructional support services, not to mention the politics and strategy of internal and external committees, boards, and funding sources, are enough to discourage any creative faculty member. And in fact, that is just what happens. It only takes one frustrating disappointment to squelch the curricular enthusiasm of a given faculty member. It may be months or years before he or she tries something again, if ever. A second disappointment will probably nip his or her

curricular creativity permanently. Many community colleges have acknowledged these almost inherent curricular realities and made provision for its redress.

A curriculum development specialist is a recurring title in the organizational structure of many community colleges. The title or function is not to be confused with the Dean of Instruction, the Vice-President of Academic Affairs, or the division or department chairperson. The function of the latter three is to facilitate the curricular process through his or her managerial role. The curriculum specialist is the fuel for the innovative spark. He or she provides the assistance and resources to usher the concept through even the most confusing of administrative mazes. He or she is the crutch, crying-towel, and father confessor when the burden appears unbearable. He or she is the leader and coordinator encouraging new methods, techniques, and devices. He or she is all of these and probably more. He or she, or at least the function, is an essential in modern day community college curriculum development.

A basic assumption of all curriculum and its development is that it be directed at positive ends. It is also pretty well agreed that education is change, that having learned something makes things different than they were before. It is disconcerting to contemplate that education (change) would be directed at other than positive ends. Idealistic to be sure, but certainly not unrealistic. It must be acknowledged that even such a moralistic phenomenon as education might possibly be manipulated to facilitate less than acceptable causes. Merely recall C.I.A. (Central Intelligence Agency) recruitment of students and faculty as undercover agents during the Vietnam war era. Or, consider the potential curricular influence of the millions of dollars pumped into colleges and universities for chemical warfare related research during the 1960s and '70s. Considering these moral abuses, it is naive to think that similar needs might not spawn similar challenges to the curricular values of tomorrow. Given this eventuality, we should not forsake an on-going concern that the thrust of community college curriculum should be in a positive vein and in keeping with the curricular mission of the institution.

Community colleges are intended to provide college transfer, occupational preparation, and community service offerings to the community which they serve. The parameters of these functions vary from one state and college to the next. Articulation with other levels of education is imminent. Local proprietary schools and area vocational education centers have often pre-empted a given area of

vocational education, and any duplication on the part of the community college would be a self-defeating endeavor. Accordingly, some states have state-wide master plans or strong central (state) control to coordinate this aspect of the curriculum. Such control might designate location or status of area vocational schools or combine them with the community college. Other states might assess the demand for given occupational training and only fund a specified and warranted number of such programs, distributed prudently throughout the state.

At the university level, regional or state-wide agreements or compacts between two-year and four-year colleges guarantee transferability of a stated number of college credits. Cooperative agencies between the two levels of education identify and resolve issues relative to the credibility of the respective curriculums.

Example

Should a course typically offered at the junior or senior level be offered at the community college? If so, should it transfer? If yes, should it transfer as an equivalent or be counted as an elective?

Community college curriculum must respond to the needs and wants of its students. Student demonstrations of the 1960s were testimony to that effect. Students demanded relevant courses that reflected the culture and that communicated in a meaningful way. Much student rhetoric was filled with emotion, as was the consequential curriculum that evolved. In speaking of the Black student, Bayard Ruston, an eminent black author, observed that black studies would do little for the power or monetary status of the individual black person. Similar observations were made about similar programs. "Student Rights" and "Free Speech" movements promoted their causes. High with emotion and short on rational thought, perhaps the real message was that there was (or is) an absence of effective educational communication. Perhaps the curriculum simply could not be received by the students.

Communication experts are quick to point out that the reading level of community college students can range from grade 1 to the graduate level and beyond, with most students congregating in the 9th to 12th grade level. Occasional evaluations of the reading level of community college texts indicate that they are usually written at

the 14th to 16th grade level and beyond. The very college catalog that is intended to assist the student in making academic and career decisions has been assessed as being written at the graduate level. Acknowledging the limitations of the various reading tests, the disparity between what the community college student is asked to read and what he is capable of comprehending breeds frustration, disappointment, and anxieties. The student's alternatives are limited. Possible choices are he can "drop out," attend developmental classes, cheat, or persevere. Many choose to persevere, and we should then expect correspondingly lower grades. Quite the contrary, however, is true; as a whole, college grades have continued to inch higher while national test scores have crept lower. However, recent results (1984 ACT) indicate there may be a slight reversal in this trend. In spite of these obvious incongruities, curriculum committees continue to churn out programs with six-syllable titles that are clearly understood by the advisory committee of practitioners but may be totally incomprehensible to the potential student. Simplicity, brevity, and conciseness are not prevalent traits of the community college curriculum, though they are companions of the populist basis of the community college and should be given every thought and consideration. For the most accurate perception, these and all other traits of the curriculum should be viewed in context and in proper perspective against a backdrop of higher education as a whole.

References

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3

Community College Curriculum in Context

TODAY

It is often mentioned that one of the distinguishing features of the community college is its innovative curriculum. Whereas elementary, secondary, and higher education are tradition-bound, the recency of the community college concept has lent itself to curricular innovation. A closer examination of this concept suggests that this may be more rhetoric than reality. Following a study of "innovative" community colleges, Blocker, et.al. (1965) concluded that:

> The general picture revealed is one of significantly less experimentation than would be expected, or certainly hoped for, in an institution which is often referred to as "the most dynamic unit of American education." (p. 65)

A review of the literature in post-secondary curriculum tends to support this conclusion. In 1969, David Klaus wrote about

1. Educational Automation,
2. Individualized Learning,
3. Instructional Programming,
4. Aims and Objectives,
5. Assessment Techniques,
6. Instructional Devices,
7. Computerized Instruction,
8. Printed Materials,
9. Audio-Visual Aids,
10. Planning,
11. Research.

That same year, B. Lamar Johnson identified cooperative work-study, programmed instruction, peer teaching, and large group vs. small group vs. independent study programs as outstanding developments in community college curriculum. A few years later in 1973, Ann Heiss published a report on innovation and reform in higher education for the Carnegie Commission. From her perspective, much curricular activity was occurring. A more flexible academic calendar was being introduced. The semester system was ending before Christmas and being complemented by the quarter and trimester system. Mini-semesters, modules, and accelerated degrees were becoming more frequent. Adjustments were being made to accommodate handicapped, disadvantaged, and minority students. Special facilities, courses and instructors were becoming part of the curricular process. Early admission, advance placement, and credit for life experience were evidencing a refreshing perspective of the concept of knowledge. General education requirements were being altered to satisfy the demands of the times. Language enrollments were down and computer science registrations were up. New fields of study were emerging with emphasis in the technologies and allied health careers. Work study, cooperative and distributive education, and life experience had been extended into the concept of experiential learning. Students' grades got better, yet their instructors complained more about their deficiencies in the basic skills. Teacher unionism grew while the importance of tenure waned. Counseling and advising remained an adjunct to the curricular process, while teaching/learning delivery systems remained constant.

Two years later in 1975, Nancy Barber edited a *Directory of Higher Education Innovation* for the Western Interstate Commission for Higher Education. Covering much the same ground, Barber noted the greatest amount of curricular activity in

1. Individualized, self-paced, modularized courses;
2. Mediated, computer-based courses;
3. Field-based courses, programs, degrees;
4. Interdisciplinary courses, programs, degrees;
5. Extended and non-traditional degrees;
6. Programs for minorities and physically and culturally disadvantaged;
7. Community programs.

In over a decade of research and writing on curricular innovation and activity in higher education, it doesn't appear that the community college curriculum could be considered as distinctively avant garde.

Many of the same techniques, methods, devices, and programs have existed at other times and at other levels of education and are not that unique for the community college. Whereas formerly the community college might have been more receptive of new ideas, the financial and enrollment exigencies of the times have now inspired a more traditionally secure posture.

Whether you call it a field trip, cooperative education, distributive education, work/study, credit-for-life experience, or experiential learning, the idea that some things are better learned by doing than by observing is well established. Calling it community service, continuing education, adult education, community schools, extended day or night school, even the earliest educators preached the concept of life-long learning. And so on. The community college is not the harbinger of an entirely new curricular tomorrow. It is sensitive to the times and should remain responsive to the clientele it serves. Or as Blocker, et.al. concluded...

> The two-year college must continually adapt to new social and educational needs as they appear on the horizon. Adaptations in instruction and curriculum are the areas of greatest opportunity for the college. Perhaps it will meet this challenge in the future. (p. 236)

TOMORROW AND BEYOND

As was noted earlier, one of our leading contemporary soothsayers, Alvin Toffler of *Future Shock* fame, has considered the matter of curriculum. As with so many other things in modern society, he suggests that we are experiencing "curriculum overchoice." In *Learning for Tomorrow* (1974), he noted that:

> There is so much that could be taught that it is almost impossible to decide what should be taught. (p. 105)

A healthy bevy of tax-conscious laypersons and educational traditionalists would agree with Toffler. The scattered successes of educational tax overrides and bond referendums in recent years lend support to this observation. Encouragements to return to the "basics of education" are a further reminder of this growing concern. Traditionalists of this kind will never want for followers, but it will have to face a mounting challenge from futurists, forecasters of the educational tomorrow. One of these people is Morris Keeton.

Keeton observes that

> "The post secondary learning of the future will and should differ markedly from that of today in content and meaning, in timing and accessibility to learners, in systems through which instructional services are delivered, in the balance between experiential learning and information processing, and in the ways it is combined with other interests and activities of life." (p. 5)

With an emphasis on quality and alternative learning methods and techniques as opposed to curriculum content, Louis B. Mayhew (1971) advised that curriculum should consist of a variety of experiences not to exclude

1. Independent study,
2. Large impersonal situations,
3. Functioning in small groups,
4. Interaction with resource persons,
5. Experiential education,
6. Exposure to other cultures,
7. Extended projects,
8. Many brief activities,
9. Play,
10. Introspection,
11. Media,
12. Aesthetics,
13. Creativity. (pp. 162-163)

In an earlier statement, Art Cohen (1969) was busy predicting that the community college curriculum of 1979 would be characterized by

1. A community base;
2. An emphasis on a general education core of
   a. Communications - to effectively communicate in writing and speaking
   b. Humanities - cultural history
   c. Sciences - environmental improvement
   d. Social Sciences - responsible citizenship;
3. Less distinction between academic, vocational, and developmental subjects;
4. Competency based, self-paced, multi-media, modularized overlapping unit;
5. Low cost;
6. Career retraining. (pp. 107-156)

Keeton and Cohen were not far off in their bench marks. In the same vein, Leslie Koltai, Chancellor of the Los Angeles Community

College District (1978) foresaw that the community college of the future would value education as an experience as much as career preparation. Students will attend off and on throughout their lives as conditions warrant or as their interests fluctuate. Curriculum content will deal with values and emotions as well as facts. All of this will require reoriented instruction and instructors and an openness to alternative methods, techniques, and devices. On a more specific note, McDaniel (Toffler, 1974) enumerated the kind of learning materials that will best prepare students for life in the year 2001:

1. Materials that will help maturing individuals cope with their society.
2. Materials that will help maturing individuals understand themselves.
3. Materials that will help maturing individuals understand their investment in the future.
4. Materials that will help maturing individuals not to feel powerless or impotent.
5. Materials that will help maturing individuals identify with the society they will inherit.
6. Materials that will help maturing individuals understand the nature of change.
7. Materials that will help maturing indivdiuals see the means of affecting the direction of change.
8. Materials that will help maturing individuals understand key social-science concepts and their relation to change.
9. Materials that will help maturing individuals identify roles they can take in the change process.
10. Materials that will help maturing individuals avoid ethnocentrism.
11. Materials that will help maturing individuals incorporate classroom learning into their immediate environments.
12. Materials that will help maturing individuals transfer classroom learning to future responsibilities.
13. Materials that will help mature individuals assist maturing individuals to create relevant learning situations.

14. Materials that will help mature individuals understand the role of maturing individuals in change.
15. Materials that will help mature individuals connect and become involved with maturing individuals.
16. Materials that will help mature individuals and maturing individuals change immature institutions. (pp. 104-105)

This preliminary discussion of the principles and theory underlying community college curriculum is all well and good. It helps us to understand what it's all about. A more complete picture, however, would be to understand how it is put into practice. Chapter 4 illustrates this phenomenon with an accompanying discussion of problems and issues.

References

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Koltai, Leslie. Speech to American Association of Community Junior Colleges. April 9-12, 1978.

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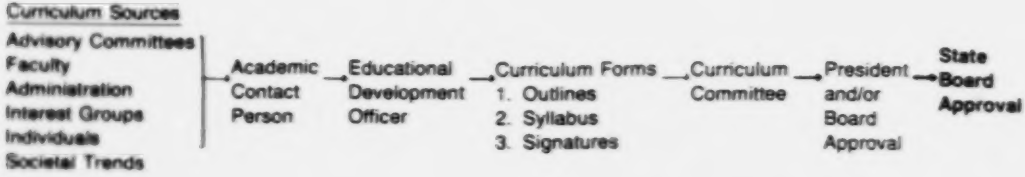
4

Procedures and Process

Curricular theory and prognostication serve their purpose. They give us the basis for understanding the past and building upon the present. Their perspective is comprehensive and hence provides a broad grasp of the subject. They have had their say, but they don't tell us how the job gets done. The elements of community college curriculum development are myriad but not incomprehensible. They are sometimes complex but not unworkable. They are often burdened with frustration, but certainly not untenable. They are at least a challenge and at most a necessity for the health, well-being, and function of the institution. They are, therefore, a phenomena which must be understood in an examination of community college curriculum.

Assuredly, the procedures and processes for curriculum development will vary from one community college to the next. Factors such as a multi-campus district, a small or large college, and the philosophy of academic freedom and college governance will influence variations in the ways that courses and programs become reality. In acknowledging these variations, a basic model emerges typifying the procedural process for curriculum development. (See Figure 1)

Curriculum Development Process



Although not exclusively, curricula usually emanates from advisory committees, faculty, administrators, interest groups, individuals, and societal trends. A whole wealth of literature exists on the role and function of advisory committees. One of their major roles is to react to curricular ideas pertaining to their area of expertise. In the course of fulfilling this role, it is not unusual for them to suggest curricular additions that are ultimately manifested in the form of a distinct course.

As they probably should be, the faculty tend to be the most active catalysts for curricular development. They are usually the first to take the necessary steps to develop new or change existing curricula. Not infrequently, the administration can be the cause for some curricular activity. This is especially true in their capacity as liaisons with the interest groups in the community and as the implementor of the bureaucratic requirements of external agencies. Quite often, an individual or group of persons from the community will approach the college with an idea or need that could possibly be serviced through a curricular offering at the college. In all of the above cases, these educational movements may be in response to changing societal conditions which warrant a complementary educational response. The assertion of minority rights in recent years, for example, has spawned a whole collection of courses on Women, Blacks, Chicanos, and equal rights.

As the idea is broached with the college, it is channeled to the appropriate academic area. Depending on the size of the college and the responsibilities (real or assumed) of the personnel involved, this person might be a given faculty member; a department or division chairperson; an assistant, associate, or area dean; or perhaps even a dean or vice-president of instruction. In some instances, the initial resting point might even be with the educational development officer. At this level, the concern is to determine the viability of the course.

Is there a need as well as a demand for the subject matter? Are there students wanting to enroll? Some states require extensive documentation of this information before they will consider curricula for approval and funding. Are the proposed curricula or changes acceptable to the trades or the receiving universities? Does it overlap, duplicate, or affect content programs in other curricula at the college? Have all potentially concerned parties been contacted for their review and opinion? Does it meet an appropriate number of contact hours with the student? Do the lecture and/or laboratory hours

coincide with established standards of awarding college credit? How will offering of this curricula impact on the budget? Are additional staff, facilities, and equipment required?

An expedient resolution of these issues is typically enhanced by the completion of curriculum forms that address themselves to these very questions. (See figure 2)

New Course Request Form

CommunityCollege

Numbers refer to instructions found in the Guidelines and Procedures for Curriculum Review and Approval.

(1) Date _____

(2) Initiator _____

(3) Subject Area _____

(4) Campus _____

(5) Type of Course. Check one of the following:

- ☐ University Parallel
- ☐ Occupational
- ☐ Special Interest
- ☐ Developmental

(6a) Check if a pilot course ☐

(6b) Check if a bilingual course ☐

(7) Prefix	(8) Number	(9) Course Title	(10) Cr	(11) Per	(12) Lec	(13) Lab	(14) Inst Load

(15) Course Description for Catalog, including prerequisites. For a modular format, attach an overall course description plus one for each module.

_____

_____

_____

(16) On a separate sheet, explain the reasons for developing this course.

(17) Instructional Methodology. Describe procedures for presenting the content and any special needs or limitations of the course.

_____

_____

_____

(18) To Begin Semester _____ Academic Year _____

(19) Projected Number of Sections to be Offered:

1st Year		2nd Year		3rd Year		4th Year		5th Year	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring

(20) Will approval of this course necessitate a curriculum (program change? Explain fully any program change or any other relationship of the proposed course to a program.

_____

_____

_____

(21) Provide written response from each of campuses regarding proposed new course.

_____

_____

_____

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New Course Request Form (Page II)

CommunityCollege

Course Prefix _____ Number _____ Title _____ same as on page 1.

(22) For University Parallel courses, attach written response of articulation with universities.
(23) For an occupational course, indicate on a separate sheet, demonstrated need by occupational area and intended level of the course. Attach Advisory Committee minutes review of the new course.

(24) Identify similar course(s) in the College/Master Course Bank _____

_____ _____

offered at other state Community Colleges _____

_____

_____

offered at state universities _____

_____

(25) Staffing requirements for this course _____

_____

(26) Capital equipment which must be purchased or acquired in order to offer the course _____

_____

_____

(27) Facility additions or modifications which are required in order to offer this course _____

_____

_____

_____

(28) Attach a Course Outline Form
(29) Attach copy of curriculum display to show where course fits into curriculum

CURRICULUM APPROVAL PROCESS

_____ Date — Chairperson, Campus Curriculum Committee

_____ Date — Campus Executive Dean*

_____ Date — Chairperson, Multi-Campus Curriculum Committee

_____ Date — President

_____ Date — Governing Board Action

_____ Date — State Board Action**

* Also certifies that a course outline is attached.
** Action by the State Board is applicable to vocational courses only.

Multi-Campus Curriculum Coordinating Committee—Action Date | Campus Curriculum Committee—Action Date | Campus—Action Date | Campus—State Action Date

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Course Modification/Deletion Request

CommunityCollege

Numbers refer to instructions found in the Guidelines and Procedures for Curriculum Review and Approval.

(1) Date _____

(2) Initiator _____

(3) Subject Area _____

(4) Campus _____

(5) Type of Action(s): Check all appropriate items.

- ☐ Course Deletion
- ☐ Change in Course Prefix
- ☐ Change in Course Number
- ☐ Change in Course Title
- ☐ Change in Credits
- ☐ Change in Per Loc Lab
- ☐ Change in Course Description
- ☐ Change Prior to Active
- ☐ T.V. Course
- ☐ Extend Prior Status
- ☐ DE/OI
- ☐ Pre-requisite Change
- ☐ Honors

(6) To Begin Semester _____ Academic Year _____

(7) Change From:

Prefix	Number	Course Title	Cred	Per	Loc	Lab	Pat Load

(8) Change to:

Prefix	Number	Course Title	Cred	Per	Loc	Lab	Pat Load

(9) Existing Course Description _____

(10) Modified Course Description _____

(11) Reasons for Modification/Deletion _____

(12) Curriculum Program Impact _____

CURRICULUM APPROVAL PROCESS

_____ Date _____ Chairperson, Campus Curriculum Committee

_____ Date _____ Campus Executive Dean

_____ Date _____ Chairperson, Multi-Campus Curriculum Committee

_____ Date _____ President

_____ Date _____ Governing Board Action

Multi-Campus Curriculum Coordinating Committee—White Copy Campus Curriculum Committee—Yellow Copy Initiator—Pink Copy Originator—Gold Copy

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New Curriculum/Program Study Request

CommunityCollege

Numbers refer to instructions found in the Guidelines and Procedures for Curriculum Review and Approval.

(1) Date _____ (3) Subject Area _____

(2) Initiator _____ (4) Campus _____

(5) Proposed Title for Curriculum Program _____

(6) Primary emphasis of proposed Curriculum Program College Transfer ☐ Occupational ☐

(7) Possible Degrees and or Certificates _____

(8) Tentative Curriculum Program Description _____

(9) Reasons for requesting this study _____

(10) Tentative Calendar for Planning and Implementation _____

_____ Date _____ Chairperson, Campus Curriculum Committee

_____ Date _____ Campus Executive Dean

_____ Date _____ Chairperson, Multi-Campus Curriculum Committee

_____ Date _____ President

Multi-Campus Curriculum Coordinating Committee - White Copy Campus Curriculum Committee - Yellow Copy [illegible] [illegible]

[illegible]

New Curriculum/Program Request — CommunityCollege

Numbers refer to instructions found in the Guidelines and Procedures for Curriculum Review and Approval.

(1) Date _____ (3) Subject Area _____

(2) Initiator _____ (4) Campus _____

(5) Proposed Title for New Curriculum/Program _____

(6) To Begin: Semester _____ Academic Year _____

(7) Projected Enrollments:

1st Year		2nd Year		3rd Year		4th Year		5th Year	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring

(8) Name of Degrees and/or Certificates to be offered _____

(9) Curriculum/Program Statement: Brief introductory statement for curriculum program listing in the catalog _____

(10) CURRICULUM DESCRIPTION: Attach material which provides the following information:
- A. Statement of need (i.e. goals of the program, community employment, etc.)
- B. Description of the program, including objectives of the program
- C. Curriculum/Program (i.e., courses and semester)
- D. Articulation and coordination between other programs within the college and other institutions within the State
- E. Faculty, facility, and financial needs
- F. Involvement with the State Division of Vocational Education and/or other agencies
- G. Advisory Committee Minutes

(11) Plan for Evaluation _____

(12) Tentative calendar of events in planning and implementation _____

(13) Attach approved New Curriculum/Program Study Request Form

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CURRICULUM APPROVAL PROCESS

_____ Date _____ Chairperson, Campus Curriculum Committee

_____ Date _____ Campus Executive Dean

_____ Date _____ Chairperson, Multi-Campus Curriculum Committee

_____ Date _____ President

_____ Date _____ Governing Board Action

_____ Date _____ State Board Action

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Curriculum/Program Modification Request

CommunityCollege

Numbers refer to instructions found in the Guidelines and Procedures for Curriculum Review and Approval.

(1) Date _____ (5) Curriculum/Program Title

(2) Initiator _____ _____

(3) Subject Area _____ _____

(4) Campus _____ _____

(6) Modification Requested (Any modification that includes a course change must be accompanied by a Course Modification/Deletion Request. For Vocational programs, attach minutes of advisory committee meetings regarding the change. For college Transfer attach written evidence of articulation with one or more SCAE curriculums. For related courses programs offered on more than one campus, attach written evidence of articulation between campuses and/or the respective minutes of the Multi-Campus Subject Area Coordinating Committee.)

_____

_____

_____

_____

(7) Reasons for Modification _____

_____

_____

_____

_____

(8) Curriculum Program Impact by Course and Semester (Attach a copy of the current program in the catalog and a copy of the revised program

_____

_____

_____

_____

CURRICULUM APPROVAL PROCESS

_____ Date — Chairperson, Campus Curriculum Committee

_____ Date — Campus Executive Dean

_____ Date — Chairperson, Multi-Campus Curriculum Committee

_____ Date — President

_____ Date — Governing Board Action

_____ Date — State Board Action

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CommunityCollege

Initiator _____

Effective Date _____

COURSE OUTLINE

Prefix	Number	Course Title	Cr.	Per.	Lec.	Lab	Inst. Load

CATALOG DESCRIPTION: (Include prerequisites)

COURSE OBJECTIVES:

COURSE CONTENT:

ADDITIONAL COMMENTS:

[illegible] – White Copy [illegible] – Yellow Copy Area – Pink Copy Initiator – Gold Copy

[illegible]

As the reader will note, these forms require the attachment of course outlines, proposed methodology, and texts for further reference in evaluating the curricula. As the proposal clears ascending levels in the process, appropriate signatures are affixed, signifying approval. Ultimately, the proposal will be reviewed by a curriculum committee varyingly composed of members of the faculty, administration, occasionally of representatives from other college departments that are affected by curricular developments, e.g. library, and from other campuses when multi-campuses exist. Commentary by the curriculum committee is abundant, not always positive, and usually colorful. Moreover, curriculum committees are not known for their efficiency or decisiveness. They are quickly earning a reputation as quagmires of the first order.

Following committee approval, the proposed curricula is passed along to the college president for his approval. In many colleges, especially the larger schools, this step is *pro forma*, with the president accepting the decision of his chief academic officer and expecting him to be able to explain and defend all curricula. The opportunity for this might occur at the next levels, where the local or state college board may have further questions about the proposal. Local boards rarely impede curriculum development, but an increasing number of state boards and their staff are exerting their latent influence and powers over curriculum. Spurned by legislative budgetary economics, vocational curricula have come under increasing scrutiny. Documentation of need or placement opportunities for graduates of new curricula is of more importance than the number of people who want to major in the subject. The number of similar programs available at other colleges in the region or state and their corresponding cost of implementation are other considerations that have attracted increased state involvement in the curriculum process.

Support or lack thereof of any one or more of the various elements impacting on community college curriculum development can mean life or death for a new course or program. Open communication with these elements and inviting their input where appropriate could be the most profitable steps a person can take in promoting the success of desired curricula. Curriculum developed in a vacuum is destined to an unpredictable fate. In fact, many curriculum problems are caused by ineffective communications within academe.

Just as stifling to curriculum development are the frustrations of red tape and bureaucracy. How many an enthusiastic faculty flame

has been snuffed, never to glow again, because of the paperwork, signatures, approvals, forms, steps, procedures, etc.? These hurdles vis-a-vis the time demands on the faculty in and out of the classroom, e.g., committees, student advising, only add to the problem. Faculty innovation and inspired curriculum innovation cannot flourish where time and bureaucratic constraints prevail. The results in colleges that acknowledge this and other curriculum problems and address themselves to them are indicative of the importance of institutional attitude toward curriculum development.

Organizational support of the curriculum function is further bolstered where a philosophy of "quality not quantity" exits. Faced with mounting economic pressures, there is a tendency to seek and support curriculum ventures that are apt to reap the most revenue for the college. While this must and should be a prime concern of any fiscally responsible and well-managed community college, it cannot and should not reign paramount over the very substance of the collegiate mission. In fact, an extension of this logic might lead to the contrary of institutional solvency.

If community colleges would persist in a policy of quantity rather than quality, eventually the credibility of the institution would be eroded to such a state that it could not attract enough students to generate minimal operational revenues. Responding to this reality is as important as responding to the rapidity of social change. Someone once said

> "...If we plot the accumulation of knowledge on an historical continuum beginning with the birth of Jesus Christ, we would find that the first doubling of knowledge occurs by the year 1750; the second in the year 1900; the third in 1950; the fourth only ten years later in 1960; and the fifth in the mid 1960s. In other words, while it took 1750 years for man to double his knowledge for the first time after the birth of Jesus Christ, it only took five years for him to similarly double his knowledge from 1960 to 1965."

Assuming this fantastic progression of knowledge to be true and unchanged, could it be possible that the body of knowledge is probably now doubling in less than a year's time and might be even increasing at even a faster rate?

Other authorities advise us that people will be changing careers seven to nine times during their lifetimes. These kinds of social change are only a microcosm of a wider, rapidly changing milieu which impinges upon potential curriculum development. The possibilities are mind-boggling; the accompanying challenge overwhelming.

One of the greatest barriers to curriculum development is that we simply do not have an appreciation for "good" curriculum. Very little curriculum research exists to assist us to overcome our ignorance. Too many of the people involved in the curriculum process are guided by selfish motives and want for a better understanding of just what curriculum is. To the public official, it can mean higher taxes and to the college administrator, more students, more money, more faculty, more problems. To the students, it can mean more courses, more requirements, more everything! To the instructor, it can mean more work, more hassle, more time, more, more, more. To be sure, it is all of this and more.

Curriculum is the very substance of the community college. It is that which makes it uniquely different from other levels of education. It is the means by which student and institutional goals are accomplished. It is knowledge, packaged, delivered, and received in a myriad of ways by a variety of persons. In essence, it is the community college.

Time and again it has been stressed that one of the greatest barriers to curriculum development is the lack of attention given to the wants, needs, and role of the students in the whole process. If nothing else, their sheer numbers would seem to warrant more attention to their curricular concerns than they get in most matters. The magnitude of their potential involvement vis-a-vis the multiplicity of their needs wrought by the knowledge and technological explosion only compounds the problem. Curricular innovation has been challenged to respond to this dilemma. Multiple integrated curricula is one response. It enables many disciplines to collaborate. It does require added faculty advising and guidance. Some faculty are reluctant to offer this service, while others are woefully inadequate to provide it, which in turn creates still another barrier to curriculum development.

When speaking about this, Dr. James Hammons of the University of Arkansas translates these barriers into some familiar phrases. While something may be lost in the satirical translation, the message remains clear. The road of curriculum development is strewn with chuckholes and barricades. Only the most wary and skillful can steer their cause through the maze unscathed. Throughout the journey, commentary and advice will be frequent, cautionary, often discouraging, and only occasionally inspiring.

Barriers to Change
(A List of Excuses?)

I wish you had mentioned that to me before budget time.
That's a great idea, but I don't think it will work here.
We (or someone else) tried that, and it did not work.
I'm afraid that's too radical for us.
If only I had time.
It just costs too much for us.
You're kidding.
No, we're too small for that.
We have outgrown that.
Where does this fit with what we are already doing?
We have never done that before.
I think you are a little ahead of your time.
Why change? What we are doing is working okay.
I just don't think we are ready for that now.
You can't teach an old dog new tricks.
I doubt that *they* would buy it.
We seem to be doing alright without that.
Let's think about it for awhile.
Let's establish a committee and let them look at it.
Do you know of anyone else who has tried it?
What does research say about this?
Write that up in decent form and let me see it.

Because of the diverse nature of community college curriculum, some may have difficulty in distinguishing academic worth from one segment of the curriculum to another. Are transfer courses more legitimate than vocational or special interest courses? Is subject matter the same whether or not it is studied in large groups; small groups; or individualized, self-paced structures? Are the various seminars, workshops, and other community service activities within or outside of the community college curriculum model?

Authorities would probably vary in response to these queries. While they might differ on these issues, consensus would probably be forthcoming on the development of community college curriculum as a whole. It must

1. Be founded in a supportive institutional philosophy;
2. Reflect the involvement of vested interests, particularly the faculty;
3. Be supported by the administration;

4. Be encouraged and supported through rewards, e.g., released time, money;
5. Have a change agent: an instructional development officer; dean of instruction, or the like;
6. Be sensitive to restrictions and devoid of as many barriers as possible.

Blessed with these traits, the curriculum is better prepared to proceed with the fulfillment of its philosophy, mission, and objectives via available practices and procedures. The result should be a curriculum that is broadly based, as resources will permit, upon a firm foundation, with the capability to meet the needs of a diverse student body.

PART TWO

A BASIS FOR CHANGE

5

A College for the Whole Family

Many would agree that "change for change's sake" is not a universal prescription for all that ails the system! Rather, appropriately structured, responsive and timely change is preferred. This latter position appears to be the more common thread that binds the rational evolution of community college curriculum. This more prudent and reasonable curricular core has preserved the more difficult times, has guaranteed integrity, and has been of service to millions of community college clientele. This broad appeal is illustrated in probably no better way than by its impact on the typical American family unit. It might be safe to say that a community college has, on the average, touched the lives of one person in every family.

In one of the earliest issues of the *Community Education Journal*, Ervin Harlacher wrote of his concept of the community college. He explained that its role should be to serve as a continuing education center for everyone in the community. . .a place where every corporate and individual interest and need might be served within the resources available to the college. Although recent financial considerations are causing a review of this philosophy, today's community college is basically still in keeping with this charge.

Probably one of the fastest growing and least understood phenomena in education today is the community college. Around the turn of the century, there were only a handful of these institutions. Today, that number is approximately 1,300. The phenomenal growth of community colleges is due, for the most part, to their comprehensive curriculum. They have something to offer almost every person in the community. Many families have found the community college to be a meaningful way to fill the voids in their lives

left by our fast-paced society. And to this extent, the community college might very well be a college for the whole family.

The community college can attract the mother whose family responsibilities have diminished, a homemaker who is bored with the daily routine, a father who wants to get ahead on the job, a son or daughter who is seeking a learning experience not available in other types of schools, and a family that is searching for new ways to do things together or a meaningful way to use increased leisure time.

The typical community college offers a whole host of short noncredit courses, seminars, and workshops for the person who wants to learn but doesn't want the hassle of applications, entrance exams, transcripts, and other trivia usually associated with enrolling in college transfer subjects. But for the person who does not want to work toward a bachelor's degree, the community college offers a whole breadth of college transfer subjects that are usually found in the first two years of a college or university. Upon completion of these subjects, a person can then transfer on to his bachelor's degree. Many community colleges also cooperate with local colleges and universities to offer junior and senior level courses as well as graduate level courses on the community college campus. If student interests are of a vocational or technical nature, the community college also offers a variety of career programs designed to equip the person for the world of work after only one or two years of college training.

In a few instances, community colleges have been known to make the counseling services of their trained and qualified staff available to the public. More often than not, the cost of these counseling services is commensurate with a person's ability to pay and consequently much less than similar counseling and testing services performed by private firms.

Community colleges also make their recreational facilities available to the public. An afternoon or evening of individual exercise or a game of volleyball or basketball with the family might be just the thing to get back "in shape." In addition to physical exercise, community colleges usually offer a cultural series, including guest speakers, films, and art shows, and many other cultural pursuits. Community colleges can also provide both meeting rooms and luncheon facilities at a reasonable price for clubs and organizations.

Without a doubt, the community college has much to offer every citizen and family within the community. In fact, community colleges have so much to offer that they have often been accused of trying to be too many things for too many people. But this

"something-for-all-" attitude is in keeping with the philosophy of the comprehensive community college.

Following the founding of the first junior college around the turn of the century, the major thrust of the two-year college was to provide the first two years of a bachelor's degree. During these developmental years, the two-year colleges were appropriately called junior colleges. Today, however, the curriculum of the two-year college consists of more than just college transfer programs; it is aimed at every citizen in the community. In addition to college transfer subjects, community colleges now offer a whole host of vocational-technical career programs and continuing education options. For this reason, the bulk of the two-year colleges are no longer called junior colleges but are rightfully called community colleges. And as community colleges, they offer the individual and the family more than just a wide range of educational, recreational, and cultural opportunities.

One of the most attractive features of the community college is its cost to the student. The tuition is typically only a fraction of that charged at proprietary schools and universities. Some colleges are tuition-free. With the rising costs of higher education, this low tuition rate is one big reason why so many families are turning to the community college to ease the educational strain on their pocketbooks. Thousands of dollars can be saved by earning the first two years of a bachelor's degree at the local community college. In spite of the low tuition, some community college students still need monetary assistance. Where this is the case, the community college offers many scholarships, grants, student jobs, and low interest loans. In fact, on many community college campuses, as many as half of the students are receiving some form of financial assistance. But the matter of money is hardly a concern when a member of the family decides to attend a cultural event or use the recreational facilities of his or her local community college. Both of these opportunities are usually available for a nominal fee. Charges for the use of meeting rooms and dining services are reasonable but will vary according to the circumstances. In addition to being well within the financial means of families, community colleges are usually within easy commuting distance of the home.

One of the driving forces behind the community college phenomenon is that it should provide the vehicle for everyone to continue his or her education throughout life. On the impetus of this driving force, a growing number of states have developed and

implemented a master plan for higher education that provides for the creation of a community college within the reach of every citizen in the state. To this end, attending the local community college is often as easy as going to the nearest shopping center or golf course. Upon arrival, it is just as convenient to enroll in classes and/or arrange for the use of facilities. In fact, in many community colleges a person can make his or her arrangements with the school by telephone or by mail without ever having to visit campus. Moreover, the student need not have to worry about being accepted by the college. Community colleges are well-known for their "open-door" admissions policy.

Simply stated, the "open-door" admissions policy means that anyone who can benefit from community college instruction shall not be refused admission to the college. Although entrance exams might be required, they are used solely for placement and counseling purposes and not as a criteria for judging acceptance or refusal of admission to the college. Some people have criticized the "open-door" policy on the grounds that it lowers the standards of the college by attracting students of lesser ability who must, in turn, be serviced by second-rate academic programs and remedial and vocational instruction. While there is a grain of truth to this criticism, a review of the facts sheds doubt upon its credibility.

Insofar as the academic program is concerned, studies have overwhelmingly shown that, after a brief period of adjustment, upperclassmen at four-year colleges and universities do not perform significantly differently on the basis of where they got their first two years of college education (North Central Accreditation Association Self-Study: Carl Sandburg College, 1985). Regarding remedial instruction, it is entirely within the philosophy of the community college to provide an opportunity for *everyone* in the community to become whatever he or she is *capable* of becoming — regardless of his or her past school performance or the length of time he or she has been out of school. If a person wants to better him- or herself through education, a community college is not going to turn that person away because he or she needs to improve or refresh skills and knowledge that he or she never learned or that he or she has not used in a long time. Vocational education can hardly be considered an inferior aspect of the community college curriculum. In this day and age when Ph.D.s are begging for work and the plumber is getting upwards of $30.00 an hour for his services, it makes sense for a person to enroll in vocational courses that insure a high paying job at graduation.

In the last analysis, the fact of the matter is that there is probably no other institution in society which can so conveniently provide all of these under one roof to such a broad range of people at such a reasonable price. This fact alone is quite a testimony to the community college and what it has to offer every member of the family. It is probably because of this comprehensiveness that it attracts the types of people that it does.

Community colleges boast a student population that is well represented by students who are in their 40s, 50s, and 60s. The annual facts and figures on Illinois community colleges for 1984 indicates that more than 20% of the student body is over the age of 40, while the average age is 32 (Illinois Community College Board, May 1985). Not only is the average community college student a mature person, he or she also tends to be gainfully employed. While many of the full-time students are gainfully employed, almost all of the part-time students are occupied with a full-time job or family responsibilities.

There should be little doubt that the community college is not something to be ignored. If a family has not taken advantage of the year-round educational, cultural, and recreational opportunities at the local community college, they can hardly cite quality, cost, convenience, or compatibility as a reason. Community colleges offer high caliber programs for people of all ages, interests, and means right in their own "backyards." And to this end, they could be rightfully categorized as colleges for the whole family.

Inherent in this comprehensive appeal, there has been a recognition that the adult learner will play an increasingly dominant role. Throughout most of the 1970s and 1980s, the average age of the community college student has been in the late twenties. All indications are that this trend will continue. Demographers predict that, given current birth rates, the bulk of our population may soon be comprised of people over 50 years of age. This trend has made its impact on the community college curriculum.

The predominantly part-time student is motivated by more mature concerns and sometimes counter-vailing full-time obligations. While a few revel solely in the quest for knowledge, adults tend to see education as a vehicle to the realization of other goals. They demand quality before quantity and relevance before theory. Where their basic learning skills are wanting, developmental programs should be available to help them. And as they enter the mainstream, careful attention should await them.

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6

The Mature Learner

DEFINITION

As of late, it appears in vogue to recognize the adult learner. Cyril Hule, Coolie Verner, Malcolm Knowles and their kind struggled for years to perpetrate the adult ways and wares. . .but to no avail. It wasn't until Pat Cross (1972) and Jane Sheehe (1974) appealed on behalf of the increasingly mature readership in our population that the unique needs and wants of adults were perceived by the masses and the common man.

From a marketing point of view, Wientge (1966) saw an adult learner as a person who was employed, employable, or retired. He included in this category housewives but not full-time students. By implication, age and social obligations and responsibilities were considered. Alan Knox (1965) felt that the adult learner was a part-time student who participated in an activity organized around some form of instruction of which the main purpose was to acquire some skill or knowledge. Community colleges and their curriculum have since dispelled this notion. Community college campuses are well inhabited by many a full-time student who will never naturally see the dark side of gray hair again. Curricular evolution has also seen to it that the adult may come to the community college for avocational as well as educational needs.

Recognizing the times, Glenn Jensen (1968) was a little more astute when he perceived the adult learner as a person who had significant and/or full-time responsibilities other than those of a student. Glenn associated the education phenomena with a systematic scheme occurring in multiple sessions with the assistance of a change agent. This definition was certainly more reflective of the adult in a con-

temporary community college environment. In appropriate academic tradition, Vincent Amana (1968) seized upon the collective wisdom of his adult education colleagues and offered the statement that an adult learner was a participant in

> ...a program of systematic learning designed to increase knowledge, develop skills, or change attitudes for mature persons passed the age of sixteen to eighteen years who have undertaken adult roles and assumed adult responsibilities.

NEEDS AND WANTS

Adults are a sensitive lot. As a whole, they respond best in an atmosphere of warmth and understanding. Dispensed information should be relevant and have the potential for immediate application. (Schmidt and Svenson, 1960, p. 82) In many cases this should lead to higher economic status in their social strata. (Dobbs, 1966, p. 99)

Adults frequently enter or re-enter the formal educational process with less than positive experiences from their past. (Watson, 1966, p. 379) Moreover, the belated return to a school room setting conjures up apprehensions of embarrassment as they expose their ignorance and dulled skills before younger classmates. The cosmopolitan composition of the community college clientele and the higher education image of the institution helps to alleviate this fear. According to Scheuler (1963), the community college instructor can help in this regard by

1. Guiding the class without dominating it,
2. Keeping the atmosphere informal without letting it become disorganized,
3. Helping the students feel part of the group without feeling submerged by it,
4. Developing an evaluation system which is meaningful but not punitive. (pp. 7-20)

Eugene Watson would add a fifth suggestion. To wit, the instructor would be wise to dispel any implication that he or she is the autocratic benefactor of facts and figures. The adult learner should be made to feel part of a discovery process that involves the self and group in appropriately beneficial proportions. (Watson, 1966)

The adult learner's motivation for participating in a formalized learning experience is often related to his or her expectations from that learning experience. For example, a participant in a vocational

class may expect an increase in salary or a job promotion. A pregnant housewife in a pre-natal care class may expect to give birth to a healthier child.

These examples help to illustrate what Sheffield (1965) found to be four types of motivation of adults for attending continuing education classes: the desire or need to

1. Broaden their liberal education for knowledge's sake, as a "refresher," or to earn a high school or college diploma or degree;
2. Enhance their occupational attractiveness in terms of skills, money, and/or position;
3. Acquire a needed life-tool other than vocational, i.e., baby-care; or
4. Experience forms of recreation and to "socialize" with other people in order to fill the leisure hours. (p. 66)

ABILITIES

An old dog can learn new tricks, maybe not as fast but just as well or better (. . .than a young dog)! So say Thorndike, Wechsler, Goldfarb and all sorts of other authorities. In separate studies, they found that the ability to learn did not decline with age. However, the rate of learning did tend to decrease. This was truer in some areas of learning than others. For example, the reaction time and speed of performance of motor skills tended to decrease with age. The decreasing ability apparently applied to perception and dexterity as well. Conversely, the same studies indicated that verbal skills and usage tended to increase with age. (Zahn, 1967, pp. 69-76)

As might be expected, physiologically related factors, such as seeing and hearing, tended to deteriorate with an increase in age. Hence, the adult's ability to perform motor skill activities declined in its rate of performance. The vast reservoir of experience which the adult brought to a learning situation aided as well as inhibited his or her ability to learn. The learning of new skills and knowledge unrelated to present life-style, however, was inhibited by the adult's intense exposure to performing familiar tasks in a certain way. Finally, the studies revealed that an adult's ability to learn was found to be greatly advanced or restrained by how well he or she had learned to learn. Moreover, his ability to learn was likewise affected by the use or disuse or learning skills. (Zahn)

Because of these learning abilities, Zahn recommended that the teacher of adults

1. Speak slower, louder and clearer;
2. Allow more time to take notes;
3. Be visible to students at all times;
4. Clarify new ideas and works;
5. Adjust the pace of the course to the capability of an adult; and
6. Not punish slow learning performance. (Zahn)

Ingham found that there was a correlation between an adult's learning behavior and his or her childhood educational experiences. Consequently, an adult who had experienced childhood learning situations not conducive to adult learning performed in a sub-standard way in an adult education program. Therefore, continued Ingham, the teacher of adults should attempt to reward all learning behavior of adults and not punish any other type of behavior in the classroom. Such procedures will help to remove, in many cases, an adult's negative childhood experiences with education and enhance his ability to participate positively in the adult learning situation. Of course, such rewards in no way inhibited the learning abilities of adults who had experienced a positive childhood educational exposure.

Brown, Knox and Grotelueschen (1966) found that the typical enrollee in an adult program was the better educated person. (pp.102-107) However, the teacher of adults cannot approach every class with the assumption that they are well educated. It would appear more safe to survey the prior educational experience of each class in order that each may be approached with a corresponding level of instruction. (Knox, 1965, pp. 231-235)

METHODS, TECHNIQUES, DEVICES

The methods, techniques, and devices for teaching adults are really no different than they would be for teaching potential learners of any age. There are some, however, that are more effective than others with an older age group. Some also require an adjustment or two to make them most beneficial.

DISCUSSION, for example, is preferred over LECTURE as an instructional method for adults. Discussion would typically involve the older student as an equal in the learning process. Quite often,

the adult learner is older than the instructor and any reversal or conflict of authority roles can only inhibit the learning environment. Discussion also adds to the comfort and security level of the adult learner because it permits him or her to draw upon his or her vast experience and contribute knowledge to the dialogue. (Schmidt and Svenson, pp. 85-86)

Lecture, on the other hand, reinforces the autocratic image of the instructor and taxes the limited attention span of adults. Many of them have just left work or parental responsibilities at home and are hungry or tired, or both. Their minds are preoccupied with other important items. To gather their attention at all would be a major feat. To ask them to be attentive, to listen, and to learn throughout a lengthy lecture is usually more than their minds or bodies can accomplish. Some military studies have shown, for example, that after twenty minutes or so, the adult retention rate to a lecture drops dramatically. The use of audio visual aids helps somewhat, but not enough to encourage the extensive use of lengthy lectures with the mature learner. Certainly, the lecture is a tried and true and convenient means of dispersing information, but when used with adults, it should be amply complemented with other and varied methods, techniques, and devices for learning. These complimentary alternatives run the typical gamut of films, videos, field trips, role playing, etc. (Verner and Dickinson, 1967, p. 85) But one suggestion appeared particularly unique and appropriate for the adult learner.

Jane Zahn (1966) recommends the use of a "quiet period" when working with adults. She felt that their minds need a few moments of adjustment as they change their roles from employee and/or homemaker to student. This period of contemplation would then allow them a chance to get their minds on track and to be better learners. (pp. 21-26) Not a bad idea!

Until recently, educational materials at the community college level have not been developed with the mature learner in mind. They were written at levels beyond national norms and replete with visual for a younger student. Within the last decade, however, attention has been given to this problem and much improvement has been made. Faculty and publishers have consulted with students and computer analyses of content to produce a more appropriate lot.

Probably the most maligned of all adult education teaching methods is EVALUATION. The need for evaluating the progress of an adult learner is probably just as important, if not more so,

than it is on other levels of education. Lanyon and Schwartz (1966) indicated that an adult student had a greater need for feedback and ongoing evaluation than did his counterpart in elementary, secondary, and higher education. (pp. 17-18) This need was probably due to the adult learner's expectation of immediate acquisition and utilization of the knowledge he was there to gain, whereas the students in other levels of education foresaw some time-lag before they could apply the information they received in a learning situation.

Because of the adult learner's need for on-going evaluation and because of his apprehension of formalized learning situations, i.e., examinations, most authorities agree that the usual form of evaluative devices be altered in adult education programs. Lanyon and Schwartz recommended that short, informal quizzes, graded by the student, should be used to let the student evaluate his own progress. Zahn (1966) cautioned the adult educator to use such evaluative devices as a student's self-guide to progress and not as a measurement for the teacher's gradebook. (pp. 21-26) It may be appropriate to question whether any evaluative device should be used with adults. If necessary, it should be flexible and be able to vary according to the individual student and the subject.

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7

"Conminuing Edvices"

In spite of the relatively recent rise in the importance of adult education at the community college level, there remains some confusion as to its proper place and role in the total community college mission. The problems might very well begin with its identity. There are so many similar titles and functions that refer to adult education that it becomes difficult to discern one from the other. As noted in a 1976 study by Fletcher, Rue, and Young of the Center for Community Education,

> ....the identity of community education programs is confused. What are the specific differences between "community services" and "continuing education"? (p. 26)

Fletcher, Rue, and Young "attempted to measure community education/community service as it presently exists — and was planned for the future." With more than 256 community/junior colleges responding, they observed that "the identity of such programs is somewhat confused." Of the more than 10 different titles used to describe these functions, "continuing education" was used more frequently (25%) than "community services" (20.5%) or "community education" (2.3%). Just as important was the fact that

> This identity confusion concerned more than the title of the programs. There was virtually an even split to the statement, the community education/community service function is really no different from the concept of adult/continuing education programs. (p. 24)

Fletcher et al surmised that the ambiguity might have been related to the variations of job titles, i.e. Director of Continuing Education, of the personnel responding to the study (3.25%). Harlacher (1969) concurred with this observation and noted that

> One of the reasons community services are identified with adult education is that the program, particularly in the smaller community

> colleges, has often been administered by the director of the adult or evening college program. (pp. 12-13)

In retrospect, the Community Education study (Fletcher et al.) encouraged further examination of the rhetoric and practices of continuing education and community education/community services in two-year colleges. (p. 25) The problem is certainly not a new one. Medsker (1960) acknowledged the problem almost two decades ago when he pointed out that there is "obviously a close relationship between adult education" and "community services". (p. 78) "In fact," he continued, "adult education may be classified as one type of community service." Medsker referred to a 1956 study by Reynolds (1956) listing 11 possible categories of community services, inclusive of "specialized community services," "community development," and "adult education".

Harlacher concurs with Reynolds and Medsker and contributes to a consistent analysis of the problem when he agrees that "adult education" should be considered as only one of the many "community services". (p. 13) But the same issue begins to become clouded when he suggests that the introduction of the recent synonym of "continuing education" for "adult education" would be an appropriate term to describe the entire formal education program of the community college. If "continuing education" is synonymous with "adult education" and if "adult education" is a sub-unit of "community services", then how could "continuing education" be used as a label for the entire community college? This observation is not intended to discredit Harlacher, but merely to illustrate the irony and magnitude of the confusion.

David Bushnell (1973) clarifies that situation somewhat when he attributes the confusion to the fact that "adult/continuing education" was probably the predecessor of "community services," but that the latter has engulfed the former through its more recent and comprehensive evolution. (See also Thornton, 1972, pp. 67-68.) Some 13 years following his first analysis of the dilemma, James Reynolds (1969) altered his original perception to suggest that adult/continuing education serves as a bridge between regular academic and community service programs (pp. 87-88). Further evidence of this kind of rationale can also be found with James Thornton (pp. 67-68).

In a more pragmatic approach to the problem, however, Gunder Myran (1969) exclaims:

> ....community services and continuing education are not mutally exclusive. One includes elements of the other; it is therefore folly

> to minutely delineate these terms. (pp. 16-17)

Moreover,

> The community college can no doubt live with either of these terms, and it will probably have to live with both of them. Regional practice and personal preference may be more influential in determining usage than argumentation as to the virtues of one term or the other.

Art Burrichter concurs that the value of such an exercise is questionable (1975) but is reluctant to let the matter drop there. Inherent in these confused terms are management and budget duplication and costs. Burrichter charges that we should do away with this senseless and expensive charade and seriously consider the prospects of an almalgamation of resources, clientele, inputs and outputs. In resolution of this dilemma, Marvin Weiss (1977) appeals to professional ethics and submits that cooperation gives the coup de grace to this problem.

This is to suggest that a more appropriate solution to this paradox may be to reorganize this segment of education under one common banner — a banner which transcends community services, community education, continuing education, and adult education (and perhaps community schools and community development); a banner which does away with the "folly" (Myran) and "buries the hatchet" (Burrichter); a banner which sincerely, accurately, and efficiently represents our mission; a banner which may be inscribed CONMINUING EDVICES.

> "When I use a word," Humpty Dumpty said, in a rather scornful tone, "it means just what I choose it to mean — neither more nor less."
>
> "The question is," said Alice, "whether you can make words mean so many different things."
>
> "The question is," said Humpty Dumpty, "which is to be master — that's all."

Perhaps Humpty Dumpty is right. Perhaps what we simply need to do is be more assertive about the resolution of this problem. Perhaps someone simply needs to take charge and decide what the term is going to be. This would be most out of character for us as educators. Quite pointedly, this is precisely the kind of thing that has lent credence to our critics for years. We just do not run a very tight ship. We are not very well organized or managed.

IN SEARCH OF EXCELLENCE*

Educational administrators, including adult educators, are not well-known for their management skills. Critics frequently chastise them for not adopting the proven practices of business and industry. They argue that "management is management" regardless of the organization, and that if we ran our schools like we ran a business, things would be much better off.

Educators retort that schools are not businesses and that the same management principles would not and could not apply. Students are humans and cannot be treated like widgets! Other "objective" observers say that the business of education is to sell knowledge, not students, and that we certainly need to do a better job. (President Reagan and his educational commission seem to agree!) And so the diatribe goes, and goes, and goes.

On occasion, schools and other public agencies have tried to use some management concepts and have met with varying degrees of success. Management-By-Objectives (MBO) and its kin, Planned, Programmed Budgeting System (PPBS) and their many variations, for example, have been tried in several educational settings. More recently, "quality circles" are all the rage in business and education alike. In the last analysis, however, we still don't know if education would in fact be any "better off" if it adopted the ways of business and industry.

A current best seller, *In Search of Excellence* (1982), explains how some of America's best-run companies have deserved the accolade of excellence. Transposing these lessons to education provides still one more comparison of our nation's schools to business.

At the outset and somewhat ironically, the management consultant-authors, Thomas Peters and Robert Waterman, help us to recognize that education is not alone in its imperfection. There is room for management improvement in the corporate society. They trace the problem to the business colleges that continue to churn out systemized, analytical, and insensitive executives of the "rational" school. It is further ironic, yet daringly complimentary, that these two engineer M.B.A.s by training would challenge the management establishment. They come out of their professional closet and chide their colleagues for their miserly, opportunistic, quantitative, and authoritarian warp. Peters and Waterman note that such management style is dated and out of "synch" with the times. Humans

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are not, by and large, rational animals. They are sensitive beings, idealists if you will, and they reason by ethical intuition. Contemporary, organizational success is founded upon quality products and service; employee and consumer satisfaction; simple, flexible style and organization; and the freedom to experiment and fail.

Educators (teachers and administrators alike) can profit from this study and should make it their business to read the book. While the authors' conclusions are not earthshakingly new, they do serve as helpful reminders that:

1. Students are our reason for being. Their respect and treatment should be of paramount concern. They are our customers, and we have an obligation to see that they receive their due commance.
2. Our success as educators lies not in the size of our student body, budgets, publications, facilities and staff, but rather in the quality and hence reputation of our product and institution. Bigger is not necessarily better.
3. The eclectic organizational model, characteristic of education, may be the way to go. Taunts of wishy-washyism may be unfounded. Our efforts to avoid polarized, and/or centralized, versus decentralized, administrations may be an attribute of flexibility in disguise.
4. The experimentalism of Dewey and his kind is almost inherent in education and educators. So, too, is the opportunity to fail. And for this, we should be complimented.

So take heart, all of you rejects from the "real world". Maybe when it's all said and done, we're not so bad after all. And the next time a board member challenges your ways and wares, shun your insecurities, and take heart that you have the trappings of corporate royalty. But a word of caution — lest euphoria set in — never stop your search for excellence!

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8

The Small/Rural Community College*

INTRODUCTION

Be it in the corporate world or on the community college campus, excellence has its place. While they may be known by other names, efficiency, productivity, and profitability should be at home in either realm. To be sure, other elements may come into play that would affect direction and emphasis. The underlying motive of success, however, should prevail. A similar observation may be made of small versus large or urban versus rural community colleges. Their basic purpose is identical, yet their substance and clientele may vary. In either case, the need to succeed is imperative. By way of illustration, an analysis of the small/rural community college follows.

A PROFILE

The phrase "community college curriculum" covers much ground. To this point, we have discussed its implication for courses, degrees, certificates, students, and the like. Because of the unique and expansive nature of the service area of a community college, curriculum can and does vary according to the location of the college. Probably the greatest distinction here occurs between the urban and the non-urban community college.

Depending on the source and the definition of small/rural community college, forty to fifty percent of the institutions within the American Association of Community/Junior Colleges can be con-

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sidered rural and/or small. In spite of this significant number, the small/rural community college has been relatively unattended to as a distinct entity. Recognizing this void, the American Association of Community/Junior Colleges established a Task Force of the Small/Rural Community Colleges in September, 1976, to "focus on issues of concern to community colleges enrolling small numbers of people but serving large geographical areas."

In pursuit of this charge, the task force met one month later and prepared a set of five position papers entitled

#1: "Equal Opportunity for the Small/Rural College" (1976)
#2: "Financing the Small College" (1976)
#3: "Small Colleges and Accrediting Agencies" (1976)
#4: "Federal and State Constraints on Small College Programs" (1976)
#5: "Developing the Literature and Research Support for Rural Community Colleges" (1976)

These initial efforts in motivating study and interest in the small/rural college resulted in the following conclusions in the position papers:

#1: Lawmaking bodies should provide an equal opportunity for all community colleges, regardless of size or geographic location, to have comprehensive curriculum and services.
#2: Most public formulas for community colleges favor larger schools and make it difficult for the small/rural college to provide comprehensive curriculum and services.
#3: When a small/rural college is evaluated for accreditation, the visiting team should be comprised predominantly of representatives familiar with that kind of an environment.
#4: Because they do not have the resources and staff of larger colleges to effectively pursue grants through the federal and state bureaucracy, small/rural colleges are not getting their fair share of these monies.
#5: Very little research and literature exists on the subject of small/rural colleges and that which does exist is grossly out of date. (pp. 1-3)

Many of these same observations were made almost a decade earlier by George Hall (1968). In characterizing the non-urban college and its community, Dr. Hall reported that:

1. The region often depends on a single industry.

2. Students must travel farther to school or pay for housing.
3. With less vocational guidance, students are unaware of broader opportunities.
4. It is more difficult to hire faculty because the pay is lower and the amenities less than in big cities.
5. Families have lower incomes and less interest in continuing education.
6. The area typically has a meager tax base.
7. The curriculum is not as comprehensive as that of larger colleges.
8. Most are in population centers of 10,000 or less.

In a more recent but severely limited analysis, this writer randomly selected and surveyed twenty-five community colleges in the western United States that identified themselves as being small and/or rural in the instrument used by the American Association of Community/Junior Colleges in collecting information for their 1977 *Directory*. The average full-time equivalent student enrollment ranged from 1000-2000, and the mean student age was 27. About 45 percent of the students were in vocational programs and 55 percent in college transfer curricula. There was an average of six full-time equivalent counselors, with 50-75 full-time equivalent faculty members. As an interesting aside, it was verified that there is apparently a greater frequency of faculty in small/rural community colleges who teach more than one subject area. This finding suggests that another characteristic of small/rural colleges is that their faculty have a broader base of teaching competency.

Additional items in this study indicated that two hundred fifty to three hundred classes, including about 30 percent in extension, were scheduled each semester, of which 175-200 actually "made" with an adjusted average class size of less than 20. The typical small/rural college in this sample was comprised of a service area of less than 6500 square miles, an average population of 70,000 and an approximate tax base of $200 million.

Additional and more comprehensive data on small/rural colleges is available from the American Association of Community/Junior Colleges *Directory* on such items as costs, accreditation, faculty, students, classes, and enrollments. This information source also allows one to compare small with urban and suburban colleges and identify areas of significant differences.

In another related study of member institutions in the Council of North Central Community/Junior Colleges, the staffing pattern

of small/rural community colleges was confirmed at typically less than 100 full-time faculty. The study also suggested that small/rural colleges may tend to have a lesser proportion of part-time to full-time faculty members than larger schools. The data further indicated that staff development programs occur less frequently in small colleges. Where the staff development program does occur in the small college, it is usually mandatory. Although small colleges rarely offered staff development programs for the part-time faculty, they were apt to have the same mandatory requirement where it did exist.

The American College Testing Program provides a wealth of data regarding the profile of the community college student in general and the small/rural college student in particular. (Arizona College, 1977) In the 1976-77 sample of 3426 freshmen from twenty-five non-urban community colleges, ACT reported that

1. Sixty percent of the students listed the small/rural college as their first choice;
2. Their ACT composite score (15.4) and high school grade average (2.7) were below the national averages of 18.7 and 2.9 respectively;
3. Most were coming from a college preparatory program in high school and hoping to major in business and commerce;
4. Most were sure of their educational major (40%) and planned to get a bachelor's (36%) or graduate (22%) degree;
5. Forty percent planned to live at home while attending college;
6. The ethnic breakdown was 58% Caucasian American and 10% Mexican-American, with 24% choosing not to respond;
7. The students expressed interest in receiving help in educational and vocational planning (42%), writing (29%), reading (36%), study skills (40%), math (49%), and personal counseling (36%);
8. Thirty-four percent showed an interest in independent study, 14% in honors courses, and 21% in foreign study, with little concern for advanced placement;
9. Fifty-seven percent expected to work while attending college, and 54% were going to apply for financial aid;
10. Thirty-two percent of the students participated in special interest groups in high school and planned to

do so in college, while 13% were involved in varsity athletics in high school but were not going to be involved in college.

Non-urban college data from ACT is also available on married, veteran, and handicapped students, as well as on major feeder high schools.

CHALLENGES AND OBSERVATIONS

The American Association of Community/Junior Colleges has taken a step in the right direction by encouraging inquiry into the small/rural community college. While a wealth of information has not been gathered, the potential exists. Many educational agencies already have the data-based capability to produce specific and comparative information on the small/rural community college. Hopefully, one of the goals of the resurging interest in small/rural colleges will be a coordinated effort in the collection, analysis, and distribution of this information. First, however, it would appear imperative that there should be a more precise definition of the small/rural college. Rural does not necessarily equal small, not does small necessarily equate to non-urban. Large colleges can and do exist outside of metropolitan areas. Indeed, one of the limitations of this analysis is that the data which was collected from the different sources had these different orientations.

Concomitant with this collection of data, an examination of the small/rural college mission might be in order. Most community colleges, regardless of size, are under budgetary constraints, and their commitment to comprehensiveness is coming under more frequent scrutiny. More cooperative efforts with other institutions and the exploration of alternative delivery systems may help to resolve this dilemma. Even seemingly remote possibilities should not escape this search. Similarly, the small/rural college should not exclude large college models. Many of their methods and techniques may work just as successfully at the small/rural college. (Upton, 1973) The importance of planning at both kinds of institutions, for example, is a well-established management principle. (See Myran and Macleod, 1972)

The professional exchange between large and small colleges can and should be mutually beneficial. The small/rural community college does not need to assume a secondary status. The small college

has established itself as an equal partner in the community college movement. In some instances, it can boast that it is doing a better job. In one comparative study, Hartman (1968) found that students from rural colleges adjusted one semester earlier than students from urban colleges upon transfer to a major university. Large colleges may similarly benefit from the self-study designs that have been used by small/rural colleges (Arizona College, 1977).

The future of the small/rural community college is not without promise. The American Association of Community/Junior Colleges has recognized the present plight, and the Task Force of the Small/Rural Community College has set the stage for further examination of the issues. Small/rural community college leaders must now take the reins and let their course be known. An organization — perhaps a sub-unit within the American Association of Community/Junior Colleges and/or state or regional associations — is imminent; coordinated research and dissemination of ideas — perhaps a League of Small/Rural Colleges — is imperative; and a united funding effort is essential.

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PART THREE

A DIRECTION FOR TOMORROW

9

Comprehensive Learning Assistance Centers

A NEW ERA

Community college curriculum has come a long way in its 80 plus years of existence. From finishing and/or technical institute to college preparatory, vocational education, and/or community services, community colleges have pretty well seen it all. Their genesis and continuing grace have been their ability to remain in tune with the times. The 1980s, 1990s, and beyond have not been and should not be any different.

Community colleges should not shed their association with relevancy. They should strive to maintain their innovative direction. There are many indications that this, in fact, is and will be the case. The community college curriculum appears bent on preserving new directions in the following accounts.

Toffler, Naisbitt and others write of agrarian and industrial revolutions past and of electronic and computer revolutions present. Conference and convention themes hype the "third wave" and professional journals abound with the latest accounts of "high tech". Presidents, professors, and deans speak of an unmet need and rush to fill the alleged gap with equipment, staff, and buildings. Grand processes and designs emerge to implement a still undefined concept while taxpayers and foundations pass judgement on their fortune and fate.

Some associate all computer and/or electronic-related industries with high technology. Others reserve the designation for careers that require a math/science background. Still others would include high school graduates or less who would sit eight hours a day, pore

over a microscope, and patiently solder platinum wires to silicon chips. The conclusion and definition is obvious. "High tech" is relative to time and place. What is high tech to some may be "low tech" to others. And with certainty, what is "high tech" today will be "low tech" tomorrow. For as sure as there is a tomorrow, obsolescence is the nature of the beast.

Manufacturers plan to have upgraded widgets off the assembly line within three years of the introduction of a product or else be prepared to be out-paced by their competitors. Conceivably, some high tech items could be obsolete before they come off the assembly line. Even with the production advances, the cost of state-of-the-art equipment is beyond the reach of most students and colleges. In order to maintain competitive prices, high technology manufacturers are looking to foreign labor markets to lower the costs of production.

With well-intentioned obliviousness, educators have ignored these and other caution signals and have accelerated the training of high technology workers. The number of computer science graduates multiplies, while experts tell us that computers will be so user friendly by 1990 that they will program themselves, and at current training rates, robotic technicians will be in over-supply by the year 2000.

We could ignore the obvious and continue on our merry way. We have done so frequently in the past and have usually come up smelling like roses. The Colleges of Education survived an overproduction of teachers in the '60s that took place even though they knew the baby boom had ended. Other uses were found for the language labs (NDEA, circa 1958) that stood idle after the Sputnik alarm subsided.

But what if for once we acted rather than responded? What if for once we looked ahead and prepared for tomorrow instead of today? It would hardly be in keeping with our reputation and our conservative tradition, but it would certainly be a requirement of the times. Even if we could afford to (which we can't) meet the educational needs of high technology industries, our developmental time is so entailed and prolonged that the curriculum would be obsolete before it was ready. So why don't we begin to prepare for the education of tomorrow, somewhere short of science fiction and just this side of high technology? Isolated efforts are probably already underway in the research laboratories of Transylvania and other sinister locales and only need public, political, and pedagogical sanction to come out of the closet.

It is time that we become more aggressive about the development, teaching, and dissemination of a universal tongue? COBAL, BASIC,

and RPG are devoid of differences in gender, neuter, plurals, possessives and the like! Why perpetuate this myriad of rules between inhabitants of the same planet, nay universe?

But let us not pause just there. Let this be an intermediary step unto communication without words. Just as drone airships can receive communication miles away, so to them, the transmission of thought should be in the offing. And while we are translating communication symbols through ideonic waves, we should proceed to isolate the physical composition of all knowledge matter into identifiable elements that can be consumed and/or absorbed as easily as a "Big Mac".

As the smart pills became available at the local supermarket, the physiochemical elements and/or catalysts of knowledge should be recognizably all about us and, therefore, attractable to that great knowledge module in the sky. It would attract, store and disseminate all knowledge matter. It could be the basis and facilitator for the transmission of the anatomical image of our person from one time and place to another. Do not be surprised to open your Sunday newspaper some day and read about a Radio Shack clearance sale on "Time Machines". Beyond this, who knows? We are limited only by our imaginations. Barring planetary catastrophe, the state-of-the-art is almost there. Education should not be far behind . . . contemporary learning assistance centers have already taken the first step.

COMPREHENSIVE LEARNING ASSISTANCE CENTERS

From television to computer and at all stops in between, the library was heavily influenced by the tremendous growth and development of video and electronic media. This phenomena of the 1960s and '70s boosted information storage, delivery, and retrieval of the broadest proportions. Periodical indices went from large printed volumes to microfilm, to micro-fische within a relatively short time. During this same period, card catalogs were replaced by "on-line" computer reference programs. With this new image came a new role. Expanded information capabilities and waning organizational budgets invited a marriage with related services and resources. Linkages with self-paced learning laboratories, developmental studies, and audio-visual media coordination appeared logical extensions of this new trend. Serving as a home-base for computer laboratories and software reduced institutional duplication of costly

equipment and materials, and modified the image and role of libraries even further.

The title of library was no longer adequate. It smacked of books and stacks of artifacts of yore. It recalled a passive user service. Learning Resource Center or its acronym, LRC, more closely described its comprehensive nature, while Comprehensive Learning Assistance Center (CLAC) clearly implied an active effort to meet user needs.

While this off-spring was well received, it was not without flaw. Time and again, from school to school, the purpose, function, and composition of learning assistance centers were expanded and contracted depending upon the funds, staff, and facilities available. The bastard child was in vogue, but rarely in tune with its brethren from one institution to another.

As learning assistance centers were accorded more formal recognition, they moved to more clearly define and expand their role in a dynamic and viable organization. The trend appears to be toward quality and excellence, providing as much assistance as possible and as is required to insure student success. While the requirements necessary to respond to this need vary from one authority to the next, there appears to be an emerging concensus of an ideal learning assistance center and its corresponding function. Broader in scope and near all-inclusive in potential services to students, the new college learning assistance center may truly be deserving of the title "comprehensive".

Video and audio-appointed learning carrells adjacent to computer laboratories now thrive where only books and magazines once dwelled. Micro-fische readers and on-line catalog and reference systems are prominent where the card catalog and periodical tables once stood. Tapes, records, and films are being replaced by sophisticated instruments of high-speed random access memory (RAM). For the romantic, it appears that the platinum wire and the silicon chip may soon replace the silver screen and printed page. Self-paced instruction at all levels and developmental education in some others are not alien to the scene.

STATE-OF-THE-ART

Susan Marty (1978) aptly summarized the state-of-the-art when she notes the use of computers, mini-computers, photocopiers, audio-visual equipment, video-cable and satellites in MARC (Machine

Readable Cataloging), OCLC On-Line Computer Learning Center, on-line information retrieval, and FAX (facsimile transmission). Hardly library vernacular of the past but certainly a harbinger of things to come.

Perhaps even more symbolic of the times and certainly the greatest departure from the past is the conversion from books to computers. Imagine a library without stacks of bound books! What's this world coming to? Results of early experiments with this approach are inconclusive, but its arrival appears imminent. Librarians and their assorted kin have already begun to think and write about the possibilities and the impact on their preserve. One in particular, H. Wooster (1981), appears to be one of the more venturesome of the group. Wooster recounts the demise of the card catalog, speaks of transcending current automated information storage and retrieval systems, and speaks of a collection memory of the grandest sort. (pp. 104-109) Connected by sophisticated communication networks, Wooster's model may well be the forerunner of the Knowledge Module, this author's prediction of the ultimate in learning technology (1979). A satellite to beat all satellites, it would collect and store all knowledge (information) as it occurs throughout time. (Author's note: Entering all accumulated information to date may present a temporary backlog.) Information retrieval access would be personally available to all beings throughout the universe. Existing knowledge facilities, e.g. school libraries, would eventually fall to disuse. During the transition, regionalization and specialization of these 20th century artifacts is likely, perhaps as information clearing houses, back-up storage, or as meeting places for interpersonal alternatives to a mechanized society?

Ralph Conant (1969) might agree with this prediction on a lesser scale, but for different reasons. He sees current educational, economic, and sociological patterns forcing different demands and roles upon urban and suburban libraries in the next decade. As demographical distribution shifts from city to suburb and as the economic gap between the classes widens, information repositories (libraries) will respond and adjust accordingly. Collections and their distributions will reflect users, locations, and times.

Herbert Poole (1977) describes a similar scenario. Lamenting the demise of our educational system, and presumably its standards, he suggests a corollary decline or change in library collection standards as the logical consequence. With a similar undertone of apprehension, he acknowledges that the impact of electronic based

and influenced alternative resource media is imminent but measurable. (p. 254) Lest this account invite the darkest of fears, it should be said that it is doubtful that the evolution from book to computer to Knowledge Module will hearken a return to the Middle Ages. To be sure, there will be problems, but likely of the soluble kind.

PROBLEMS

Problems of the first order will be dealing with better applications of the technologies that already exist. Fear of the unknown accompanies all change, but gradual use and understanding of current technology can make for a smoother transition into the future. Secondary shock waves are sure to be felt and may be of even greater magnitude for comprehensive learning assistance centers of the future. While users will eventually grow to accept the initial change, they will need recurring fortitude to deal with the havoc of jumbled or inaccurate data; the controlling and monitoring of access to certain information and other items of the collection; the copyrights and patents; and the frailties and failures of the mechanical element.

Cost is obviously another consideration. Many an aspiring librarian has had his or her innovative fire cut to the quick by budgetary limitations. While the promise and potential of automation seemed unending, the dollars were simply not forthcoming. Daily advances in technology are bringing prices within the range of a broader library clientele, but in the final analysis, the budget can spell doom for those who would dream, as Jim Deacon (1983) testifies.

Were cost and change and their secondary impact surmountable (and they are), user satisfaction would always remain an inherent need. Be they libraries, comprehensive learning assistance centers, or some future variation on this theme, their mission has been and always will be to serve the information needs of their public. A disgruntled recipient of garbled information from the Knowledge Module is just as disappointed as the researcher of a pilfered collection.

Except for a few select locations and a few distinct locales, libraries and their latter day kind have always appealed to the entire breadth of the population. From child to adult, their attraction has stood the test of time. There is no reason to believe that this role in lifelong learning will diminish. In fact, all signs are that it will only perpetuate

this traditional mission. With the tremendous growth of knowledge inherent in this technological age, it would seem only safe to conclude that the need for expanded use of information resource facilities for adults is certain.

Paul Bergevin listed in detail the basic beliefs which form the basis for his philosophy of adult education:

1. Adult behavior can be changed to some extent;
2. Adult education should be designed to help people mature;
3. Adults must be offered and helped to use the opportunity to act responsibly in the several facets of their adult lives: political, vocational, cultural, spiritual, and physical;
4. Adults should assume the obligation to learn to become more productive citizens;
5. Adults have untapped resources of creative potential that should be utilized;
6. Every conscious adult can learn;
7. Every adult can be helped to make better use of his intellectual capacity;
8. Adults need to live together in community in order to grow and mature, and they need to learn how to do this;
9. Every adult should find some way to express himself constructively and creatively;
10. Traditional teaching procedures and learning facilities are often inadequate;
11. An understanding of freedom, discipline, and responsibility promotes the discovery and productive use of our talents;
12. Such vital concepts as freedom, discipline, and responsibility can be comprehended by experiencing them through a variety of inspired learning experiences in a host of subjects;
13. What is called a free or democratic society must strongly emphasize lifelong learning for all its citizens, if it proposes that they remain free and use their freedoms effectively;
14. Each adult participating in a learning experience should have the opportunity to help diagnose, plan, conduct and evaluate that experience along with his fellow

learners and administrators;

15. The civilizing process is evolutionary and will advance in proportion to the number and intellectual quality of the adults who play an active role in that process;
16. Many adults associate education only with school. Adult learning that can cause behavioral change can take place at home, in church, in a factory, on a farm, in any place;
17. The means are as important as the ends;
18. The nature of man is neither "good" nor "bad," but he or she is essentially an adaptable, educable person in a state of becoming as well as being capable of a degree of excellence he or she rarely attains. There is room for individual action and will in his or her struggle for achievement;
19. Behavior is conditioned by feelings and emotions as well as by reason and rational judgment;
20. Human beings seek fulfillment or happiness;
21. Adult education can help condition persons to live in a society and at the same time sensitize them to ways in which that society can be improved. (Bergevin, 1967, pp. 5-6)

An analysis of each listed item would reveal a potential or existing relationship between the many tasks of adult education and the role of comprehensive learning assistance centers. Item #7, for example, holds that "Every adult can be helped to make better use of his intellectual capacity." The capacity of a CLAC to assist in this regard is obvious. Similarly, item #10's position that "Traditional teaching procedures and learning facilities are often inadequate," is almost an open invitation for CLACs to step right in and fill the void with their latest in learning gear. And certainly item #16's thesis that adult learning can occur anywhere reinforces what we have known for a long time. Namely, libraries, learning resource centers, CLACs, or what have you, are places for adults, in addition to other groups, to learn.

Fred Harrington (1977) shares this view and acknowledges the changing role of libraries in this regard at the same time:

> We know that the image and role of public libraries in learning is changing markedly. Formerly seen as sources of books for the bookish, many libraries, especially metropolitan ones, are actively involved in a wide range of adult learning services — information and referral

> (I & R) concerning all locally available human services, GED preparation, television and video tape learning, and assistance with all sorts of independent or self-directed learning projects. (For a good overview of library independent study activities, see Mayor, Toro, and DeProspo, 1976.) The libraries are an obvious natural resource for lifelong learning. (p. 44)

Cyril Houle would seem to agree. In one of his major works, *The Design of Education* (1974), he made several references to the importance that libraries will play in the role of adult education. Harrington and Peterson (1980) see this adult activity occurring at the university level.

But where and whenever this interaction occurs, it only serves to further emphasize that times are changing and so are libraries. Many, if not most, have already been transformed into some form of a comprehensive learning assistance center. They are electronically poised for a step into the future. While their basic mission and concerns remain, possibilities for expanded service are limited. Their current direction suggests that they are the next logical and appropriate step enroute to the ultimate Knowledge Module. With increasing frequency, they are assuming the many responsibilities and tasks of our evolving information society. The charge appears imminent, but the skills required for success are wanting. The accompanying challenges are apparent and exciting and will certainly help to achieve the goals of adult education:

1. To help the learner achieve a degree of happiness and meaning in life;
2. To help the learner understand himself, his talents and limitations, and his relationships with other persons;
3. To help adults recognize and understand the need for life-long learning;
4. To provide conditions and opportunities to help the adult advance in the maturation process spiritually, culturally, physically, politically, and vocationally;
5. To provide, where needed, education for survival, in literacy, vocational skills, and health measures. (Bergevin, pp. 30-31)

This is all to say that the thrust of CLACs, adult education, and much community college curriculum entails high technology. The influence and impact of computers and electronics on the curriculum is everywhere and is worthy of still further study. Of particular value is a survey of the way in which it should and could evolve.

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10

Getting Started in High Technology*

> I don't know about you, but every time I turn around it's high tech this, high tech that. My mail is filled with professional journals and slick brochures advertising conferences and partnerships involving high tech. We've been into computers and electronics for years! Why such a big deal all of a sudden with high tech? Am I missing the boat or something?

The most obvious response to this query from a community college educator is, "Yes, you are missing something if you haven't started to think seriously about high technology." But don't feel left out if you haven't begun to move in that direction. According to the *Arizona Daily Star* (March 3, 1983), most educational institutions were not prepared to offer the high technology training required for tomorrow's job performance. In recent months, educators have begun to explore and define the concept and curriculum; assess job demand and requirements; and project human and physical resource requirements.

Educators appear to have accepted the forecasts of futurists and the promotions of the business world. Alvin Toffler in *The Third Wave* (1980) and John Naisbitt in *Megatrends* (1982) explained that we are now in a social revolution not unlike the agricultural and industrial revolutions of centuries past. The current revolution, they continue, was spawned by the age of advanced electronics and its accompanying vehicle, the computer. In fact, the impact of these phenomena is changing the course of life before our very eyes, and the ongoing catalyst is the business community. In the rush to be competitive and profitable, business has become immersed in the production and sale of high technology products that are more

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efficient than previously imaginable. Gene Bylinsky reported in *Fortune* magazine (1983) of an automated factory or flexible manufacturing system (FMS) that can manufacture more goods, faster, cheaper, and in greater quantity than ever before. (pp. 52-53) Donald White, Member Technical Staff, Bell Telephone Laboratories, recently noted in a speech at a high technology conference in Oakland, California, that if the automobile industry had paced the developments of the electronics and computer-related industries, a Rolls Royce could be purchased today for $2.45 and could get 400 miles to the gallon. More recently, David Garrett (17 March, 1983), President of Delta Airlines, warned that if the nation's airlines do not begin to immediately upgrade their obsolete aircraft with high technology replacements, their industry will soon have a second-rate transportation system.

Terms like *robotics, fiber-optics* and the like attract the attention of the public and help to create the need to know more about high technology. Communities have, in turn, begun to apply pressure to the school system, and some educators have begun to respond programmatically. Still others have proceeded more cautiously and paused to ask: "What is high technology?" "Why should we respond to it?" "Can we respond to high technology?" "How do we respond to high technology?"

HIGH TECH DEFINED

According to an author in *Challenge* (March, 1983), "High Technology could be defined as any influence of the computer on engineering and design, planning and scheduling, fabrication and assembly, and marketing and distribution." An Ohio Task Force on High Technology has proposed that

> the term high technology characterizes: processes, products and applications stemming from the latest scientific and technical development; utilization of high levels of artificial or machine intelligence and information decision capabilities; and extension of human manual and intellectual capabilities through the use of computer technology and the application of sophisticated physical principles.

Others have suggested that the concept was so broad and pervasive that a meaningful definition was not practical and that a characterization, model, or listing of high technology fields was more useful.

Most people tend to associate high technology with electronics and computer-related functions that are capable of assessing and

generating great quantities of information at great speed. Because humans can perform tasks faster, electronic and computer advances are made daily. As these advances occur, current systems become obsolete — another characteristic of high technology. For example, Burr-Brown Corporation, a leading international manufacturer of micro-electronic components, told visitors to its Tucson, Arizona, plant that they planned for their products to last three to five years. They said that if they were to produce an item beyond that time, they would be outpaced by their competitors and no longer viable in that market. Thus, obsolescence is inherent. What is "high technology" today, may be "low technology" tomorrow.

High technology tends to be associated with a given industry or a specific purpose and may be limited in scope and application. Figure 1 lists specific industries that generally require high technology.

Figure 1

High Technology Industries

Genetic Engineering
Telecommunications Equipment
Electronic Components
Pharmaceuticals/Health Chemicals and Power Supplies
Biomedical Equipment (medical scanners, pacemakers, implants)
Computer Equipment (peripherals)
Security Detection Equipment (fire emergency)
Home Computers
CAD/CAM Systems (computer assigned design/computer assisted machine)
Mainframe Computers
Office Automation Equipment (word processing)
Semiconductors/Integrated Circuits
Lasers and Infrared Equipment
CATV (cable television)
Microwave Equipment
Military Systems
Test Equipment (quality assurance)
Electromechanical Components (robots and numerical control)

(Watcke, 1983)

An analysis of this and similar lists revealed that high technology covers a breadth of industries and career fields and requires varying levels of cognitive and psychomotor skills. In microelectronics, for example, the job of die-attachment and wire-bonding was included in the plans of a high technology center that was to be coordinated by the electronics industries of one major "sun-belt" city. The skills to do the job were minimal, the training period only a few weeks, and the hourly pay was barely above the minimum wage. No mathematics, science, electronics, or computer science was required, but the patience to sit long hours peering through a microscope, and the dexterity to solder a tiny wire to a spot on a chip were needed. On another level, the manufacture and maintenance of robots that utilized microelectronic chips required some mathematics, science, electronics, and machining skills. On still another level, the design and engineering of the robots demanded the highest levels of academic training.

All of these jobs could be thought of as *high tech* jobs, but each required a different level of skill and training. They are high technology only in the sense that they relate to and support the function of today's electronics industry. The skill and knowledge level which is required may or may not be greater than that required of other technology industries. In the long run, this is probably nothing more than a temporary phase in the electronics revolution that will someday permeate all industry. And when this phase expires, all technology will be high technology.

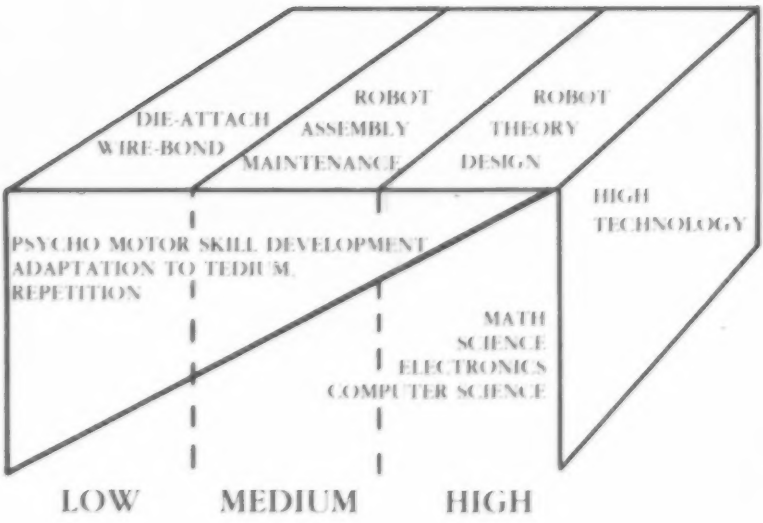
DIE-ATTACH
WIRE-BOND
ROBOT
ASSEMBLY
MAINTENANCE
ROBOT
THEORY
DESIGN
HIGH
TECHNOLOGY
PSYCHO MOTOR SKILL DEVELOPMENT
ADAPTATION TO TEDIUM
REPETITION
MATH
SCIENCE
ELECTRONICS
COMPUTER SCIENCE
LOW
MEDIUM
HIGH

FIGURE 2

COMMUNITY COLLEGE RESPONSE

The need to respond to high technology is apparent to all levels of education. Computer and electronic orientation have become more commonplace in elementary and secondary schools, while universities continue to pioneer the research and theory of high technology designs to come. Rudimentary high technology skills and knowledge, e.g., CAD/CAM, electronics, and the maintenance of high technology equipment are logical extensions of vocational school and community college curriculum. The unique and dynamic assembly requirements of each company require that they reserve this function to themselves.

Community colleges have made a business of responding to community needs, and most evidence indicates that business and industry will require an abundance of employees for high technology jobs in the foreseeable future. Many colleges have responded by forming profitable partnerships with businesses and industries, as noted in Warmbrod, Persavich, and L'Angelle (1982).

If a business partnership is not immediately forthcoming, a re-evaluation of existing institutional resources and curricula may be in order. It could be that many of the elements required to prepare students for high technology jobs already exist in the curricula and simply need to be repackaged, highlighted, and updated to become more visible and functional as appropriate courses. President Reagan proposes a $76 million dollar federal plan to reduce the shortage of science and math teachers. Meanwhile, cooperating closely with other educational institutions in the community and enlisting the support of local business as well as nearby college foundations may be profitable ways to extend curricula. High school students could take some high technology courses at the college; local businesses can advise on the curriculum, provide equipment and facilities, and hire program graduates; and the foundation can provide funds and friends in furthering the best interests of the program.

Educators must be aware that high technology is changing so fast that some job skills may become obsolete rapidly. Therefore, high technology curriculum, facilities, faculty, and equipment should be planned for maximum flexibility and the ability to respond to the rapid technological change. Equipment, for example, might be leased or borrowed from industry rather than purchased. Or better yet, training might take place on-site at local businesses, using their facilities and equipment and perhaps their employees as instructors.

An appropriate complement of part-time instructors would provide still more flexibility in staffing and budgeting. As technological changes occur, changing faculty staffing needs could be adjusted through a part-time faculty buffer. Full-time faculty positions could remain intact. These as well as other elements should all be part of a larger college plan for high technology.

In planning for a high technology program and center, one college estimated that it would take about one year and ten months from concept to operation. During this time, the idea would be tested against other programs and models around the country. Information would be gathered from business, industry, faculty, and students. The local community must support the concept; students must enroll in the courses, or the program would surely fail. Faculty were to be consulted to ensure that curriculum would be complementary and that current faculty were willing to retrain and ultimately fulfill additional instructional roles. Broad and extensive involvement of all those concerned was thought to more likely ensure program successes. When all information had been gathered, a program design would evolve with the assistance of appropriate planning committees. Ultimately a program director would help to ensure successful implementation, monitoring, and ongoing evaluation of the program.

Community college educators should be prepared to respond to high technology. Programs in automotive technology, machine tool, drafting, to name just a few, need to be updated with electronic equipment and computer-assisted instruction. Dr. Ray Ryan (1985), formerly State Director of Vocational Education for the State of Arizona, pointed out that in the near future only about 10% of our workforce will be employed in manufacturing. He further noted that General Motors predicts that 90% of their production machinery will be controlled by computers or robots within five years. To continue to prepare our students for obsolete jobs is a great disservice to them and to society. The industrial revolution has passed, the third wave has arrived, and the electronic and informational society is here!

Many, if not most, community colleges have taken up the challenge. New courses and program have appeared in the curriculum. And as the content changed, so too has the method of delivery. Of similar innovative cloth, individualized instruction and self-paced, mediated, and computer-assisted methods, techniques, and devices have begun to emerge as phenomena to be reckoned with.

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11

Individualized Instruction Revisited*

Somewhere between the frenzied rush to "high technology" and the stabilizing sense of "quality education" remains the bond of individualized, self-paced instruction. Probably the most primordial form of learning, it begins when self teaches self, and when parent teaches child and evolves from there. It was a way of life in the "little red schoolhouse" and was revived by "pioneering" educators in the 1950's. It has been reinvented in varying forms from time to time and place to place. And so it has come to pass with high technology and community college.

Clearly a priority for the 1980's and 90's, individualized instruction has required some new thinking from many educational quarters and coined a new acronym in OE^2, open entry/open exit. In many cases, heretofore, class enrollments were only reimbursed if they conformed to traditional semester start, stop, and attendance dates. Now students can begin and end OE^2 approved classes throughout the course of the year as their abilities, interests, and schedules permit.

Community colleges were primed for such an opportunity, and faculty and staff were quick to hasten the conversion. Automotive, typing, and nursing (and its life science support curriculum) were some of the first to make the switch. Nursing lectures and clinicals as well as drafting and office skills are likely candidates. Basic and advanced skills in reading, writing, and math are strong possibilities, especially where comprehensive learning centers are available for self-paced instruction as an alternative to traditional classroom lectures.

Instructors can and should be enticed with released time and summer grants to develop modularized course materials so that students can progress at their own rate of learning. Students can

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"contract" with themselves or the instructor to complete established course competencies. Grades can be earned and awarded based on the degree of competency completion. The learning laboratories could be open throughout the school day and school week and instructor and/or para-professional assistance should always be available. Learning stations can be complemented with programmed packets, visuals, mock-ups, simulators, and computers as appropriate and available. In this scenario, the faculty role is altered from that of a "fountain-of-learning" to that of a manager-facilitator of a learning system. Instructor loading formulas should be reviewed and revised accordingly.

Typical admissions and registration procedures no longer apply. With limited laboratory space and students entering and exiting classes at will, a reservation system is required to register students any day of the week and to reveal available laboratory slots. Computerized registration systems can be a savings in disguise. Without their advent, OE^2 record keeping can be a monumental task. Otherwise, learning stations and patience may be over-extended.

Individualized, self-paced, mediated, open entry/open exit instruction is not a messiah, although its faculty spread the gospel on frequent demand. As with anything new, quality is an overriding concern. Only time and study will tell if students learn as well as in other systems. And even so, there are simply some (students) who lack the self-discipline and need a more traditional approach. Only the large and well endowed institutions may be able to afford such luxury. In the long run, it appears to be cost effective. Student-teacher ratios can be increased without affecting and without diminishing student learning assistance. On the other hand, developmental and start-up costs are significant and may be hard to find in these difficult times.

The last word is not in and the bottom line has yet to be drawn. But when it's all said and done, the verdict shall read "guilty of innovation in the first degree."

One case in point, Pima College, Tucson, Arizona, illustrates the challenges and promise of this trend.

AUTOMOTIVE TECHNOLOGY: A CASE-STUDY

Few of us would deny that educational change is slow to occur. And by the time that the new change does finally occur, it is out-of-date.

Perhaps the Kendalls, a current popular country and western vocal group, were thinking of us (educators) when they sang the refrain, "If you're waitin' on me, you're fallin' behind." For some years now, even the stodgiest and most conservative of university professors of education were promoting the idea of taking students from "where they are to where they can go." But because of a myriad of reasons, this concept rarely ventured forth from the theoretical confines of the graduate seminar into the front lines of practical application. Or, in the words of the Kendalls, we were "fallin' behind."

Recently, however, the State of Arizona authorized community colleges to offer vocational courses and programs on an open entry/open exit (OE^2) and/or accelerated basis. The opportunity to service students on a more convenient and a more theoretically preferred pedagogical delivery mode was well received. While the response was enthusiastic, applications were somewhat slow to materialize and were not without problems. What had seemed at first glimpse to be a boon to the academic world was soon received in a less positive fashion.

Registrars, admissions officers, and computer services staff were aghast.

> "Do you mean that students won't be starting and ending classes at the same time?"
>
> "Why no," was the response. "We don't think that all students learn at the same rate or the same time. So, we want them to be able to stop and start the learning process at any time that is commensurate with their achievement."
>
> "Well, how do we know when they have completed enough hours of instruction for a Carnegie Unit? I mean," they continued, "how will we show this on the grade report and transcript?"
>
> "We will develop competencies for each unit of instruction, and when they demonstrate accomplishment of those competencies, they will receive grades, and you can post them on the transcript."
>
> "But the V.A. will never buy this! The vet has got to be enrolled in a given number of hours throughout the semester or else return part of his stipend."
>
> "We've talked to the V.A., and they are concerned about this arrangement. But, we are hopeful that we

will be able to work something out with them."

The business office expressed similar anguish.

"If a student can start or stop a class at any time, our typical drop/add period won't apply! A student could theoretically complete a class before the drop/add period was over! Why, they could complete a course, drop it, and get a refund!"

"I am sure that is all possible," was the answer, "but we are going to have to work it all out. The legislature has set our pace by removing the census date (the 45th day); now we have to pick it up from there. OK?"

"Wait a minute," the business people continued. "What are the tuition and fees going to be? If students could progress at their own rates, couldn't they conceivably complete twenty to thirty units in a regular semester or sixty or more in a year? I mean, what should we charge them? We certainly don't want them to get two years of education for the cost of one? . . . do we?"

"Well, it is highly unlikely that many students could progress at that rate; and what is more, one of the main reasons for this is to remove the constraints of the traditional and arbitrary learning schedule. Perhaps we will have to adjust the tuition/fee schedule so that it corresponds to this opportunity. We'll just have to get the Board to approve a new tuition fee schedule, the computer services department to rewrite the programs, and the public relations office to update all promotional materials."

The Dean of Instruction was perplexed.

"Yuh know," he remarked, "I applaud this opportunity and empathize with the problems of the people that have to implement it. But I don't see how it's going to work."

"What do you mean?" was the question.

"Uh, um, it's fortunate that we've already structured the delivery format on an individualized, mediated basis so we don't have to make that change, but I don't know how I am going to load the faculty."

"Simple," was the reply, "merely have each department using OE/OE add up the total number of hours the laboratory needs to be covered by faculty. Then, add the total number of hours of faculty accountability for each

faculty member provided in the current faculty contract. Have the department faculty schedule their respective number of hours of accountability over the course of the fiscal year. Let the uncovered hours be assigned to part-time faculty. What do you think?"

"Sounds like it will work, but it sounds like some of my full-timers might finish up in March or April before the rest of the faculty are done."

"You bet. And some of them might take off a month during the middle of the year. What difference does it make as long as they fulfill their contractual commitment?"

"Guess that's ok . . . yuh know, I bet some would really like it! But wait a minute. The thought just occurred to me. How are they (teachers) going to keep track of student progress? Who determines the grade for the course?"

"It could happen in many ways, and each subject area or department will have to decide which one is best for them. Probably some kind of a check-off sheet to record completion of the competencies. Accomplishment of so many competencies would be a C, so many more a B, and so on."

"The counselors, advisors, and registration personnel are really going to have to be clued in on this."

"Right. In fact, we ought to hold a workshop during fall orientation and let the whole college know what's goin' on down here."

And so it went, this wonderful thing called "open entry/open exit," from concept to practice, all in a few short years. But there was really more to it than this brief account would suggest. It wasn't that simple or easy.

IGNITION

The automotive program in the college district was conceived in a bed of creativity. (One year prior to its official opening, the college was already functioning as an institute dedicated to innovation.) All sorts of new and untried ideas were being tested, so it was not unusual for the Automotive Department also to depart from

the norm. At the outset, the college Automotive Department relied on the traditional lecture/laboratory methodology, until the transition to a self-paced, mediated approach could be effected. When the Downtown Campus opened in 1974, the Automotive Department was relocated to that site, and the opportunity occurred to start the program anew. The impetus of the move allowed the theme of individualization to materialize. From that point on, each course was first designed in a competency-based format, and subsequent staffing was predicated upon a commitment to the self-paced, mediated concept. Where skills were lacking, compensated in-service training and preparation time was forthcoming.

A critical part of the CBI (competency-based instruction) development was to decide on an instructional format for teaching the specified objectives. In this instance, a super 8mm film/cassette tape/mock-up format was decided on as the primary delivery method to be used to teach competencies for all the automotive courses. During a summer grant, faculty would build mock-ups, shoot and edit super 8mm film, record accompanying cassette tapes, and design the instructional content to be taught in a self-paced format.

The traditional three lecture/three laboratory delivery was changed to five hours in the laboratory with films and tapes and one hour of supplemental lectures, testing, planning, discussion and whatever else was necessary to integrate the learning system. Each student practiced what he was taught on the mock-ups until he was confident that his skill and ability were competent enough to be tested. A student could go through a course at his own speed and ability, repeating the film as often as he needed before being tested. If testing so indicated, he or she could go back and repeat units where he or she was deficient. Because this system was so unique, it required a revised definition of instructional roles. Faculty developed, implemented, maintained, and served as a resource to curricula content. They were truly facilitators of instruction.

The laboratory was supervised by instructional assistants who kept track of student time and progress, tools, films, etc. Technicians were required to repair mock-ups, maintain the films, and fix projectors. They also kept the laboratory open from 7:40 a.m. to 10:00 p.m., Monday through Thursday, and 7:40 a.m. to 4:45 p.m. on Fridays.

At least one faculty member was available in the lab most of the time. During non-assigned lab time, a faculty member could update and revise the films for the courses for which he had responsibility. This time could also be used to develop and implement new courses to keep current with industry.

The first five years of the program were extremely busy. Faculty developed, updated, and revised their courses, devised appropriate lecture period activities, and worked with their vocational advisory committee as the occasions permitted. Everything was beginning to run smoothly . . . and then the rules changed!

With much encouragement and good intentions, the state legislature authorized vocational courses to be taught in an open entry/open exit format. In one sense, it was a blessing in disguise. The automotive program was already on a self-paced basis. The only obstacle (so they thought) to complete realization of the concept was to develop a way for the student to enroll in the next course at any time during the year, regardless of census dates. But as grand as it seemed, the gesture was filled with a multitude of second considerations:

1. Lectures could no longer be held with a group of students registered in a common course at the same time.
2. A student would be able to choose his own laboratory time and class size would be unmanageable.
3. All testing would also have to be on an individual basis and done on the mock-ups to a specified level of competence.
4. A faculty member would no longer be "in charge" of a particular class or evaluate the class as a whole.
5. Each faculty member's role in evaluation of courses that were taught in the laboratory needed definition.
6. Furthermore, a student might have more than one instructor during his time in the lab.

For the most part, the issues were clear. The greater challenge resided in the persons and magnitude of change. How could and would they make it all work?

NEW MODEL

The groundwork had been laid in the summer of 1981 when an automotive faculty committee set forth a descriptive model of an operational open entry/open exit program. It described the program as open to students for enrollment any day of the year that the

college was open. Students would buy packages of hours scheduled at their convenience with the use of a computerized reservation system.

The model was circulated to various administrative groups during the summer and fall months of 1981. Student Services staff were concerned about the additional workload that would be required by year-round daily advising. As a result, automotive advising was placed in the Automotive Lab. The Registrar's Office personnel had to adjust their procedures and calendars for registration and enrollment. Accordingly, two semesters of six months each were established for the open entry/open exit enrollees. The Fiscal Office was concerned with reconciling open entry/open exit tuition payments with regular semester course charges. This was resolved by agreeing that the total automotive course enrollments for each student could count as a single enrollment in any particular six month semester. This meant that students would be charged tuition for no more than a total of 12 semester hours. The Campus Dean would approve accumulations of more than 18 hours in any one semester.

When the faculty returned in August, 1981, they were apprised of the summer's developments. They received copies of the latest revision of the model and began consideration of the need for additional curricular work. By this time, a start date for open entry/open exit classes had been set — the opening of the second semester in January, 1982.

At this point, the four full-time faculty members began to identify needs and concerns for curricular revision. Weekly problem solving meetings with the faculty and administration were scheduled and held. The most obvious revision was to immediately remove the lecture sessions from the schedule. With students entering a self-paced, individualized laboratory on any day and proceeding at their own rate, there was no longer a need to organize a set of lectures. The Fall 1981 semester was spent refining the curricular materials with the Educational Development Officer. By the start of the Spring semester in January, 1982, it became apparent that this might well be a continual process for the life of the program. One of the more ominous tasks was to bridge the gaps between the instructional orientation and philosophies of the respective automotive faculty. The vehicle chosen to accomplish this task was to develop a plan to reorganize the responsibilities of each faculty person. The proposal was jointly developed by the faculty and administration and first put to test in the summer of 1982.

The revised teaching assignments were a departure from the traditional instructional role. Instead of teaching and developing courses in a particular area, faculty now had assignments as resource people in the self-paced laboratory and/or as developers of self-paced materials and work stations. While the program still consisted of twelve courses, the lab instructors were responsible for working with students as they progressed through the machines, films, and mock-ups. These instructors could and did also develop new courses and activities outside of the lab. One instructor, for example, developed and taught special classes for mechanics working for the city public transportation system. Another instructor developed courses for the emissions control technicians' certification program.

At times, the magnitude of the change appeared overwhelming. Teachers were expected to make a drastic change in their approach to teaching and to accomplish this change in just a few short weeks. Administrators were expected to adjust and accommodate an educational format different from the rest of the system. By the first of April, a pilot instructional design was agreed to by all of the parties concerned.

The Automotive Lab would be open twelve months each year. It would operate from 7:40 a.m. to 9:40 p.m., Monday through Thursday, and from 7:40 a.m. to 11:40 a.m., Friday mornings. Students would enroll at any time the lab was open, and qualified instructors would always be on duty. The developmental faculty would be making new units and work stations and repairing old ones. Faculty members were contracted for their total annually required (by contract) hours of accountability. These hours were to be fulfilled in the laboratory and/or in developing curricula. An annual work schedule was developed, and voids were filled by part-time faculty.

TUNE-UP

Seemingly, the bulk of the task was behind us. The curriculum had been revised, the Business Office assured of accountability, and the administration appeased. All seemed in order and ready for a trial run, except for one small detail. How would we register the students? The thought of tackling the registrars, admissions officers, and their toy cyclops was forboding. By this time, the weight of the task had taken its toll upon us all, and the possibility occurred that we just might not be up to this one last challenge.

But such was not the case. We marshalled our forces once more and drew upon an emerging esprit de corps. Much effort had been expended by many people within the College in the development of the open entry concept — including the registrars and admissions officers. By this time, interest in this innovative instructional approach was broadening, and a strong sense of commitment and opportunity was in the air. The registrars felt a part of the movement afoot and shared the challenge before them.

Fortunately, the College had embarked on a computerized on-line registration program in the Fall of 1974. A DEC-10 computer had been chosen to carry us into the future. The computerized student information system had been developed, expanding, and refined to a level that permitted students to register for classes at any of the various campuses and a variety of off-campus locations (shopping malls, churches, etc.). Student records could be inputted, accessed, and updated on the spot, thereby permitting immediate confirmation of a student's enrollment. Since the initial implementation of the computerized on-line system, the use of DEC-10 for registration, instruction (computer science labs), and fiscal matters, had increased dramatically. This necessitated hardware upgrades along the way to increase the computer's capability. As a result, the college enjoyed one of the more advanced and sophisticated student information systems in the country. Yet in spite of the many enrollment and registration options available, most students and courses were still enrolled and taught on a traditional semester schedule. Accommodating the enrollment requirements of the new open entry/open exit program, therefore, became a welcomed challenge. What this really meant was "How were we going to reserve lab time for individual students throughout the course of the calendar (not academic) year?

Students would still register for individual automotive courses much as they had done before, but only after the required lab time had been reserved. A pilot lab reservation system would need to be developed. It was agreed that for at least the initial phase, this could be done on a micro-computer housed in the laboratory. Meanwhile, registration for the automotive courses could occur at any of the regular registration stations throughout the college.

Computer Center administrative and programming personnel were eager to address this challenge, but needed more specific guidelines and recommendations from which to proceed. After numerous meetings and discussions with automotive faculty and administrative

personnel, a pilot reservation system was developed which would reserve blocks of time on given days and dates for individual students. Two on-line computer programs were written to assist automotive lab assistants in reserving student lab time. An established maximum number of learning lab hours was determined for each open entry/open exit course. The main on-line program, RES 800, permitted the student to reserve lab time in four-hour timeblocks, inclusive of breaks, totalling 80 clock hours for a four credit hour course. Students could select a morning (7:40-11:40 a.m.), afternoon (12:40-4:30 p.m.) or evening (5:40-9:30 p.m.) block on days the lab was open. An auxiliary program, RES 801, restricted reservation times on the days the lab was closed (i.e., Friday afternoons, weekends, holidays, etc.).

If requested, the reservation program would automatically assist the student in finding available timeblocks on given dates, days, and times. This feature was especially helpful when the availability of slots became limited due to high enrollment. Class sections for open entry/open exit classes were placed into established semesters, i.e., fall and spring, and utilized six month dates: Fall semester — July 1 - December 31. Spring semester — January 1 - June 30. Students reserved lab time and registered in the semester in which they actually commenced their lab work.

At registration time, students reserved specific blocks of time for weekly lab attendance. Lab attendance was monitored daily by instructors and lab assistants to ensure that pre-determined lab schedules were being followed. Students were further required to clock in and clock out of each laboratory session.

To further assist in monitoring student progress, two additional report programs were developed. The RES 600 program created a listing of students who were scheduled to complete a specific open entry/open exit course or courses within the immediate seven day period. RES 601 created a report showing all students in the open entry/open exit registration system that were to complete a class or classes within the next week. Also, periodic deletions were run of expired lab time slots (stale dated records) in order to reduce proportionately the record storage demands on the reservation system.

Students who wished to complete a course at a faster pace could simply schedule increased lab time within a shortened time frame. Once achievement of the required course competencies was demonstrated, a student was assigned the appropriate grade and received course credit. The student was then free to register and

purchase lab time in another automotive course or simply terminate at that point. Students who were unable to achieve the required course competencies within their allotted time had to purchase additional lab time.

The pilot reservation system had been implemented, but it remained just that — a "pilot." Further enhancement of the on-line reservation system continued to be of interest and concern to the faculty and administrative personnel who were a part of the automotive open entry/open exit effort. Future areas needing attention included additional programming to monitor daily attendance and student completion schedules. This would relieve automotive faculty and lab assistants of tedious manual monitoring of students. Grade reporting also had to be automated and synchronized with individual student schedules. The next logical step would include computer generated grade forms for students completing individual courses. An accurate verification of enrollment was also needed in both the on-line registration and reservation programs. This would allow for automatic deletion of students from the lab reservation program if not officially registered and confirmed (i.e., registration fees paid).

AFTER-BURN

And so it came to pass: an open entry/open exit delivery system for automotive instruction at the College. It was hardly a panacea for all instructional ills, and surely not a herald for an educational tomorrow, but it was, certainly, a model of innovation and cooperation for the future. To be sure, problems remain. But the project is well underway and the outlook is optimistic.

12

Directions for the 90's

This text has attempted to illustrate that as the next decade approaches, community college curriculum will experience gradual and responsive change. In retrospect, this change will have assumed significant proportions. It will have signaled an important change in the over-all thrust of the community college. Just as the 1960's was the period of tremendous growth and identification with the 'community', the 80's and 90's will be viewed as a re-direction from comprehensiveness to qualitative cost-effectiveness.

Socio-economic and technological forces will be the primary determinants of the direction and content it assumes. While basic definitions may remain, their scope will be altered. Leveling resources and enrollments will require a retreat from the historical position of broad curricular diversity to a position of a more narrow list of cost effective, need related offerings. Consortia and new partnerships in the curricular endeavor will be sought and will provide an avenue to continue service to specific interests. But in the final analysis, the community college will cease to be "all things to all people."

Technological and economic evolution will influence subject matter and delivery systems throughout the curriculum. Computer and electrically based phenomena will respond to a student clientele and workforce that require a constant opportunity for educational upgrading and updating. A re-allocation of leveling resources to this end will revive cyclical pleas that the "basics" (reading, writing, math) and the humanities not be short-changed. The cries of these traditionalists will be heard, but not above the din of the new technology. The saving grace will be their ability to adjust to the times and to weave the threads of the new technology into their cloth.

The procedures and processes for developing curriculum will vary little if at all. While not perfect, they are the result of almost a

century of trial and error. Enrollment fluctuations will moderate as the curriculum eventually settles into a pattern that will permit it to respond to the unique amalgamation of an increasing percentage of mature learners and the ever-present younger element. The position of "conminuing edvices" relative to other curricular needs will diminish. As the distinctions blur between the younger and the older student, the critical place of "conminuing edvices" will be recognized by its almost total integration into the mainstream of curricular offerings. For similar cost-effective reasons, the non-urban community college may be subsumed into regionalized versions of educational institutions intending to serve the same purpose.

Because the obsolescence inherent in high technology will probably create even more sophisticated machines in the next decade, high technology will continue as a recurring force behind the changing curriculum. Planning will become even more important as a tool useful in growing sensibly with the rapid change. But planning as we know it today will give way to computer systems that will facilitate more accurate forecasts and elicit more successful responses. The new technology will invite individualized learning strategies of science-fiction proportions. Proponents of these alternatives will multiply but will be restrained by the basic need of most people to interact with other people throughout the course of life's experiences. These and other curricular-related issues will require continued observation and massage as they shape the curriculum for the 90's.

ENROLLMENTS

Next to the technology and socio-economic forces of the times, enrollment will probably impact community college curriculum the most. The numbers and kinds of students, with their respective educational needs, who come to take classes at community colleges in the 1980's and 1990's will shape the breadth and depth of the offerings. College budgets, and hence curriculum, exist and can continue to operate only so long as these enrollments generate adequate revenues. Where and when enrollments *drop*, cost effectiveness requires a corresponding reduction in the curricular offerings.

As funding resources moderate, special attention to promotion, marketing, student retention, student assessment and placement, and student attrition will continue. Competition from proprietary schools and four-year colleges and universities will make this dynamic even

more obvious. Hopefully, cooperation will prevail over competition, and more curricular linkages will evolve between the respective institutions.

Student retention is a valid concern especially where students discontinue their education because their studies were too difficult or too easy for them. Improved and increased student assessment for placement, not admissions, into the proper curriculum and courses should help reduce the magnitude of this problem. This should also help with student attrition, which can be as much as 50% from fall to spring semesters in some schools. It should be recognized, however, that the very nature of the community college curriculum is to respond to the life-long learning needs of its constituency. Accordingly, students come and go as their personal and career circumstances dictate. Community college student attrition must be viewed within that scenario, and realistic retention rates should follow.

A typical response to declining enrollments is to increase marketing and promotions. In spite of national, state, and local trends to the contrary, some would argue that more aggressive recruitment or broader special interest curricula will cultivate new found clientele. The reality is that overscheduling and hence increased class cancellations only add salt to the wound. Over-scheduling creates disgruntled students and correspondingly bad public relations where those feelings prevail.

Caution should be taken so that recruitment, marketing, and promotion do not border on hype. Where the reluctant student is drawn into the curricular fold by special rates or a media blitz, his or her initial borderline need or interest may shortly vanish and his or her count among the missing would be soon to follow.

The phenomenon of community college enrollments increasing with unemployment in our economy and decreasing with employment may moderate in the near future (see Figure 1). As more and more of the population becomes concentrated in the age 50 and above group and as the frequency of the young student, age 22 and below, stabilizes, the numbers among the eligible work force, ages 23-49, requiring community college curricular services may stabilize to the point where changes in the economy will have less of an impact on enrollments and hence curriculum (see Figure 2). The recurring need and curricular mainstay may be the need for continual retraining and upgrading to serve less drastic fluctuations in the economy. As the enrollment complexion changes and impacts the curriculum, the curriculum itself will need to experience frequent revision and update.

FIGURE 1

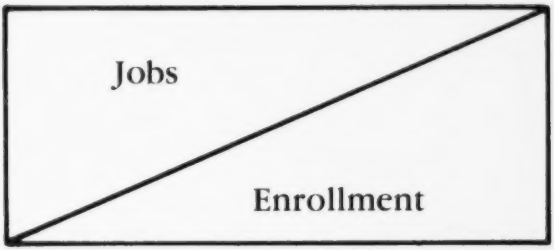
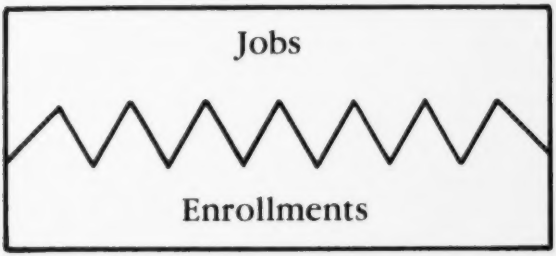


FIGURE 2



CURRICULUM

For fear of being redundant, I will only briefly note that the influence of computers, electronics, high technology, and the service industry that they beget will permeate the curriculum of the next decade. Their impact will be reflected in delivery and retrieval capabilities and will generate learning alternatives that have the potential of maximizing everyone's learning abilities. Specific curricula may experience a gradation of standards of acceptance. Nurses, machinists, managers and the like may realign areas of specialty and levels of capability into corresponding career models.

Appeals to retain current concepts of basic, general, and developmental education will be partially met with their integration into the mainstream of high technology. The liberal arts and humanities will be retained in an altered state to provide an essential element of depth and humanism in the otherwise technosized curriculum and society.

In order to meet the challenge of these times, cooperation and consortia at all levels will be necessary. The magnitude of the change, the inherent knowledge explosion, and the resources necessary to respond will be beyond individual means. All quarters of the educational sector must rally their collective forces and seek the assistance of other members of our society who will benefit from this newly expanded alliance and who can complement dwindling government resources.

Community college leaders/managers must reassess and reorganize to deal with the obvious. Old systems for new ways simply will not get the job done. Centralization at the state level of community college control appears likely to continue throughout the next twenty years. Fighting to preserve the past may be a costly waste of human and financial resources. Adjusting to the new direction and learning to maximize opportunities from within may result in the ability to maintain a current and responsive curriculum.

FACULTY

The instrumental vehicle to curricular success remains the faculty. To be sure, its role and function will and must be altered by the influence of the new technology. In keeping with the tone of the frontier ethic, only the strong and adaptable will survive. Early retirement programs will continue to help separate the old from the

new, the tired from the inspired, and the venturesome from the reserved. Professional development (much of it self-initiated) will usher in the ways and wares, and the ultimate will be limited only by imagination. Union militance will subside and be rechanneled into a new era of governance. The faculty job description will be rewritten and many instructional specializations will emerge. To the early query of all parties concerned, the decision-making process will center about a team approach whereby everyone must assume a greater responsibility for his or her respective role and the success of the curriculum as a whole.

THE BOTTOM LINE

Because of its prompt curricular response to many changes in the technosociety, the associate degree will take on new importance and respect. Its bearers will receive the attention heretofore reserved for graduate degrees. The stigma typically associated with a non-baccalaureate curriculum will fade into a plethora of high paying jobs that await the well advised. In preparation for the new technical careers, continued emphasis on the importance of math and science throughout the educational system will result in better prepared and more capable students. Because of the extremely practical nature of the curriculum, student involvement in the learning process and corresponding delivery system adjustments are crucial. The strains of this and related changes will require continued evaluation of the community college curriculum.

As the continuing evaluation occurs and presumably appropriate curricular changes are made, it is important that community college curriculum remain cognizant and committed to the principles of and need for life-long learning. Such a curricular commitment is necessary in order to keep pace with the information age. Similarly important is to not lose sight of the reasons that community colleges exist:

- To provide high quality college-level instruction suited to a wide variety of interests and abilities;
- To further the educational and personal development of all who can profit from it;
- To further democratic ideals by preparing informed, responsible, contributing membres of society;
- To stimulate the intellectual and cultural life of the student and the community.
- To provide each student with programs that most nearly suit his or her needs, interests, and abilities. (DeHart, 1984, pp. 1-2)

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